



STIC Search Report

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STIC Database Tracking Number: 220753

TO: Camie Thompson
Location: REM 10D28
Art Unit: 1774
Thursday, April 05, 2007
Case Serial Number: 10/743778

From: Usha Shrestha
Location: Biotech-Chem Library
REM-1A64
Phone: (571)272-3519

Usha.shrestha@uspto.gov

Search Notes

Examiner Thompson,

See attached results.

If you have any questions about this search feel free to contact me at any time.

Thank you for using STIC search services!

Usha Shrestha
Technical Information Specialist
STIC Biotech/Chem Library
(571)272-3519

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Access DB# 220753

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Carmie Thompson Examiner #: 79244 Date: 4/2/07
Art Unit: 1774 Phone Number: 202-571-272-1530 Serial Number: 10/143,778
Mail Box and Bldg/Room Location: Room 10 D28 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: organic electroluminescence device
Inventors (please provide full names): Jeong Seo; Kyung Lee; Hee Kim;
Chun Park; Hyungwon SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Ctr.
Earliest Priority Filing Date: 12/24/02 APR 03 REC'D

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number. Pat. & T.M. Office

Please do a search on claims 1-10 with special attention
to claim 10 wherein the
blue emitting material is
one of compounds S-1 to S-89
the blue emitting material in claim 1

Thanks

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Docket No. K-0597

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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

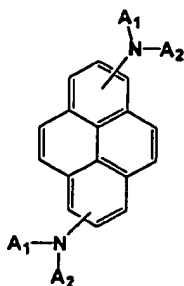
1. (Currently Amended) ~~[[An]]~~ A blue organic electroluminescent device, comprising:

a substrate;

a first and second electrodes formed on the substrate;

an emitting layer formed between the first electrode and the second electrode, the emitting layer having a plurality of materials and ~~being comprising~~ a blue emitting material using a chemical formula 1 as a dopant

[Chemical formula]



~~Wherein, at least one of~~ wherein A1 and A2 ~~[[is]]~~ are selected from a substituted or non-substituted aromatic group, a heterocyclic group, an aliphatic group and hydrogen.

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2. (Currently Amended) The blue organic electroluminescent device of claim 1, wherein wt. % of the material ~~[[in]]~~of the chemical formula 1 is 0.1 - 49.9wt.% of a total weight of the emitting layer.

3. (Currently Amended) The blue organic electroluminescent device of claim 1, wherein materials forming the emitting layer together with the material of the chemical formula 1 is structured as a chemical formula 2

[Chemical formula 2]

B1 - X - B2

Wherein, the X is selected from a group consisting of naphthalene, anthracene, phenanthrene, pyrene, perylene, and quinoline and ~~at least one of the~~ B1 and B2 ~~[[is]]~~ are selected from a group consisting of aryl, alkylaryl, alkoxyaryl, arylaminoaryl and alkylaminoaryl.

4. (Currently Amended) The blue organic electroluminescent device of claim 3, wherein at least one of the B1 and B2 is selected from phenyl, biphenyl, pyridyl, naphthyl, ~~tritylphenyl~~tritylphenyl, biphenylenyl, anthryl, phenanthryl, pyrenyl, perylenyl, quinolyl, isoquinolyl, fluorenyl, terphenyl, tolyl, xylyl, methylnaphthyl, and hydrogen.

5. (Currently Amended) The blue organic electroluminescent device of claim 1, wherein the material forming the emitting layer together with the material of the chemical formula 1 is one of following formulas

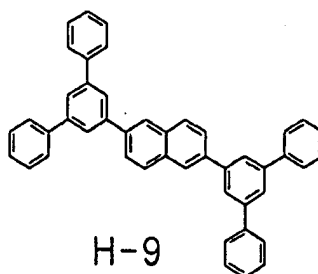
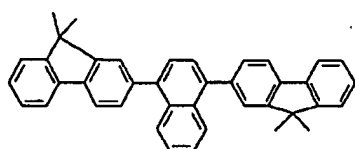
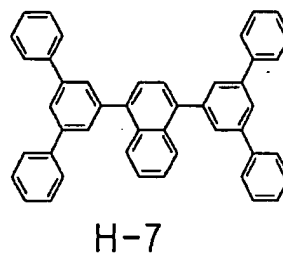
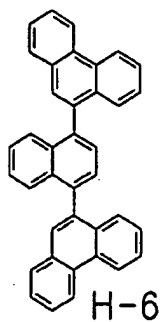
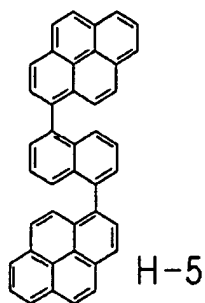
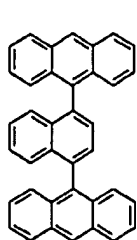
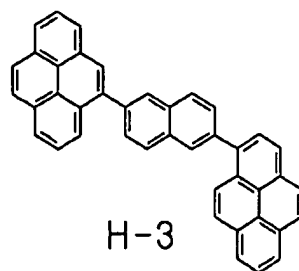
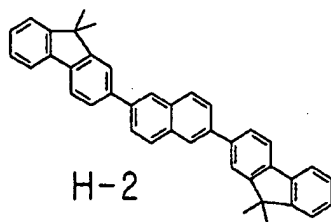
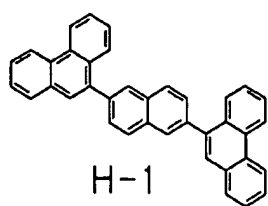
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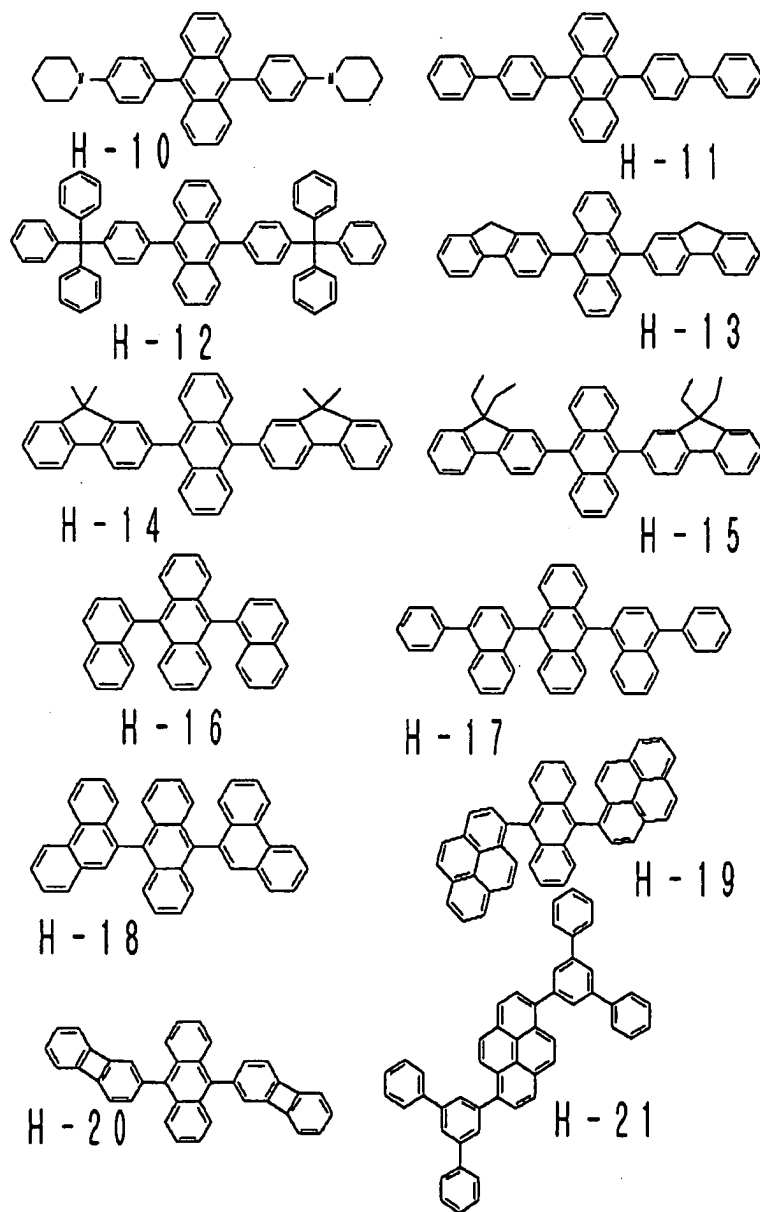
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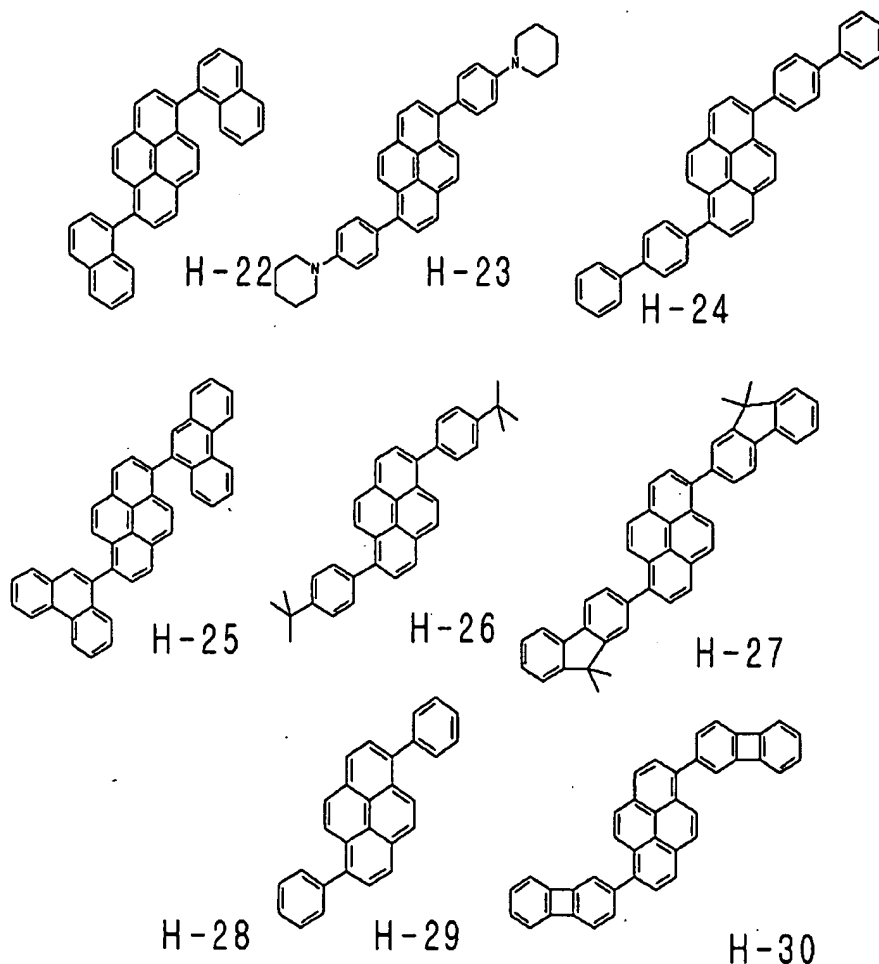
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6. (Currently Amended) The blue organic electroluminescent device of claim 1, wherein at least one of the A1 and A2 is selected from a substituted or non-substituted phenyl, a substituted or non-substituted biphenyl, a substituted or non-substituted pyridyl, a substituted or non-substituted naphthyl, a substituted or non-substituted quinolyl, a substituted or non-

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substituted isoquinolyl, a substituted or non-substituted fluorenyl, a substituted or non-substituted terphenyl, methyl, ethyl, propyl, i-propyl, and ~~t-butyl~~ t-butyl.

7. (Currently Amended) The blue organic electroluminescent device of claim 1, wherein a substituent of each substituted A1 and A2 is at least one and selected from alkyl, alkoxy, alkylamino, alkylsilyl, halogen, aryl, aryloxy, arylamino, arylsilyl and hydrogen.

8. (Currently Amended) The blue organic electroluminescent device of claim 7, wherein the substituent is one selected from methyl, ethyl, propyl, i-propyl, t-butyl, cyclohexyl, methoxy, ethoxy, propoxy, butoxy, dimethylamino, trimethylsilyl, fluorine, ~~chlorine~~ chlorine, phenoxy, tolyloxy, dimethylamino, diethylamino, diphenylamino, and triphenylsilyl.

9. (Currently Amended) The blue organic electroluminescent device of claim 1, wherein at least one of the A1 and A2 in one of following chemical formulas

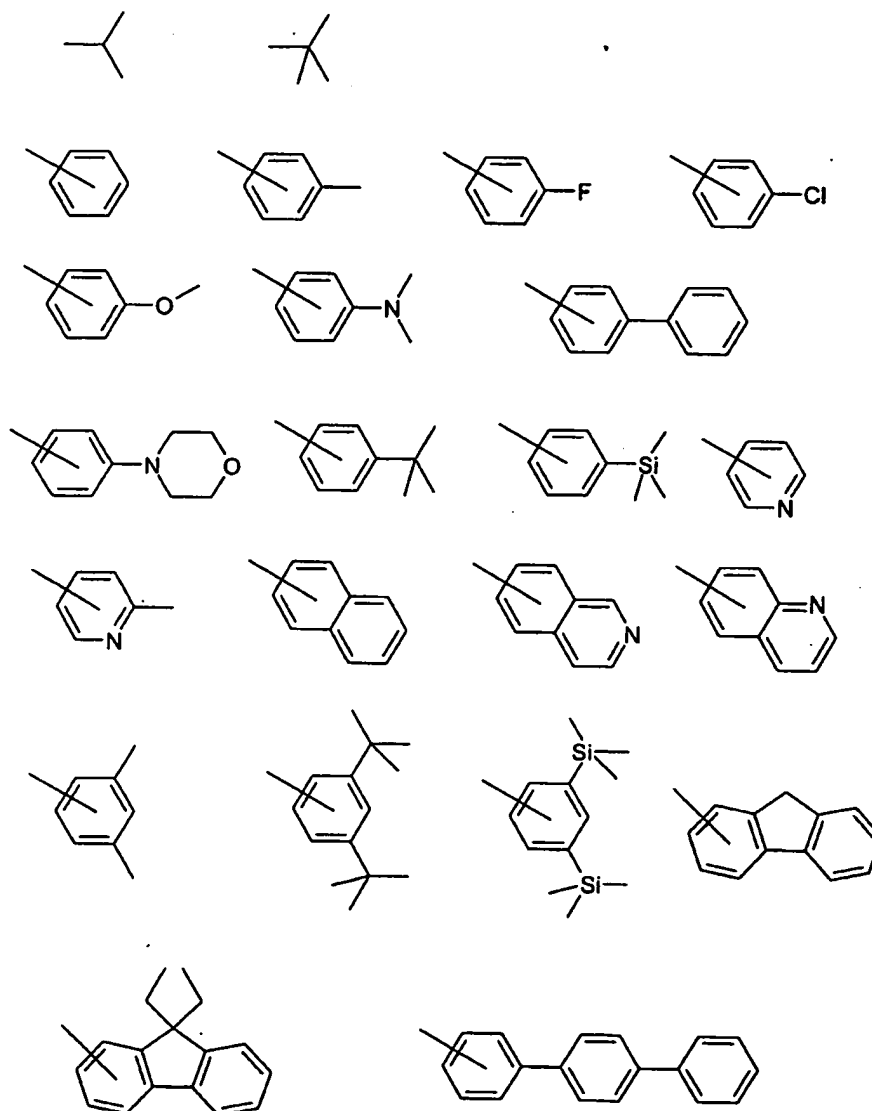
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10. (Currently Amended) The blue organic electroluminescent device of claim 1, wherein the blue emitting material is at least one of following chemical formulas

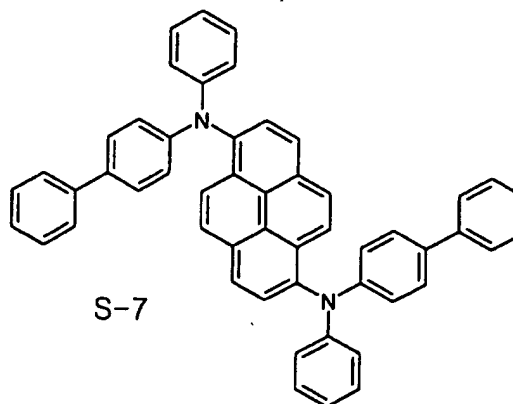
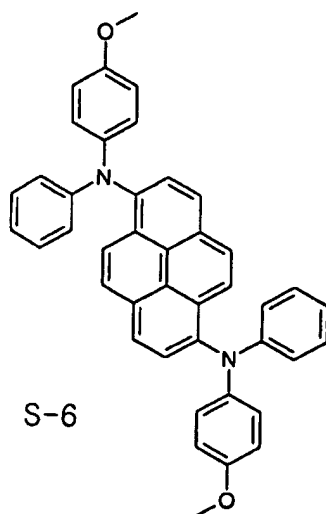
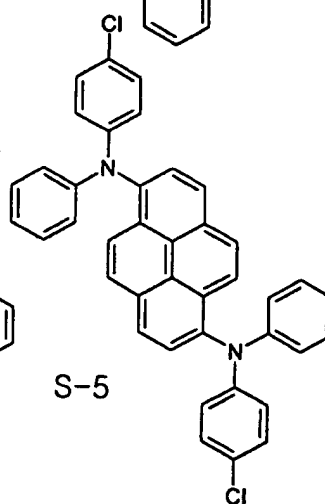
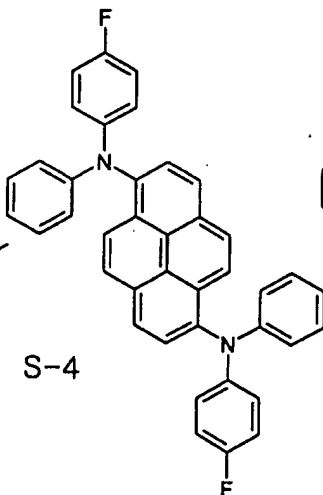
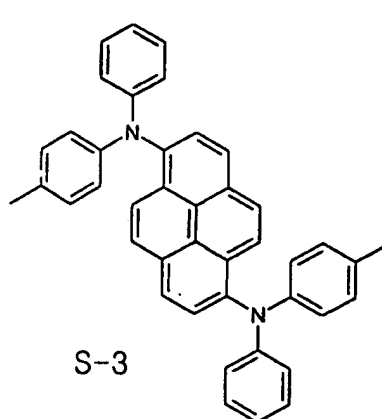
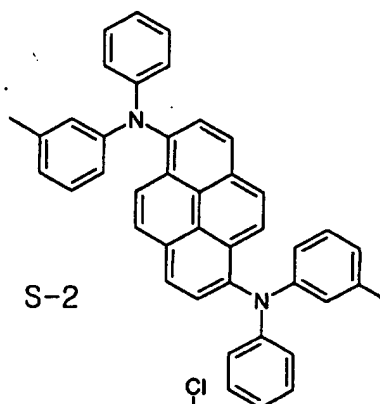
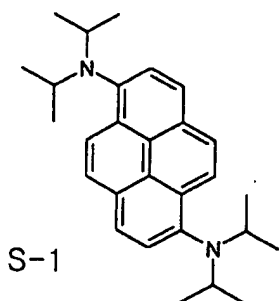
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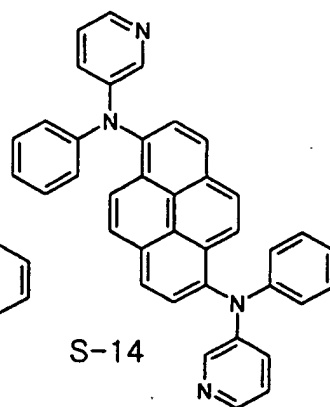
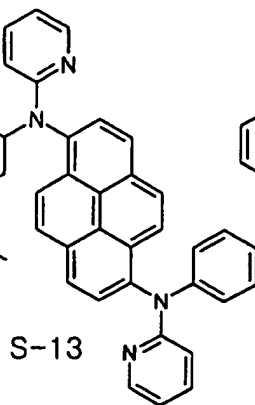
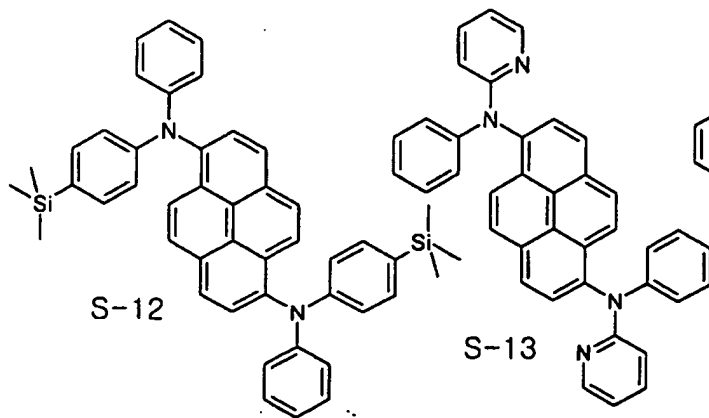
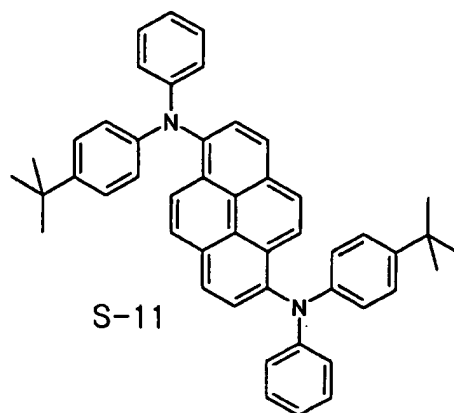
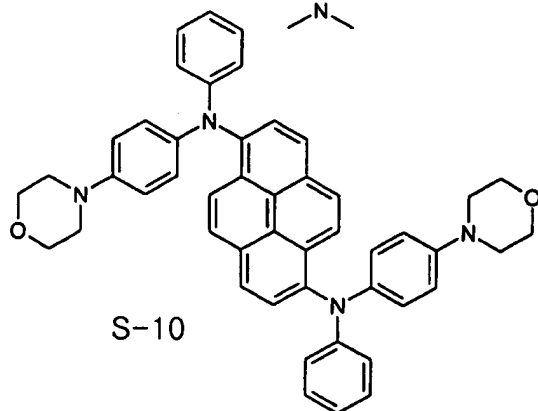
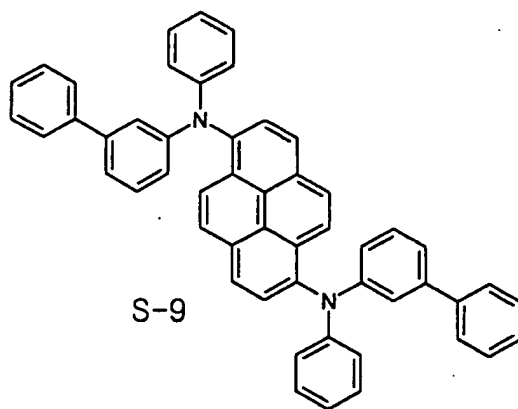
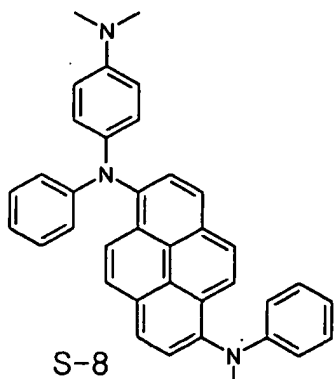
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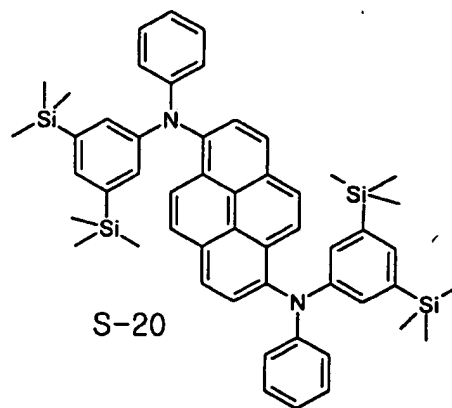
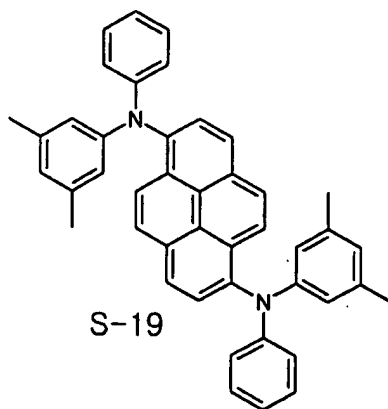
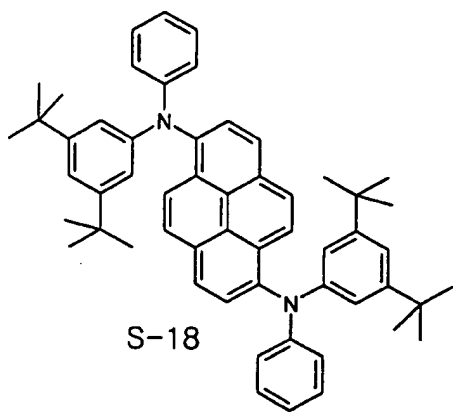
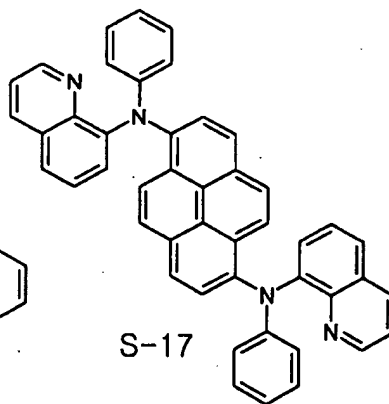
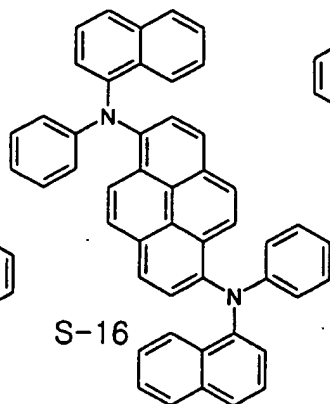
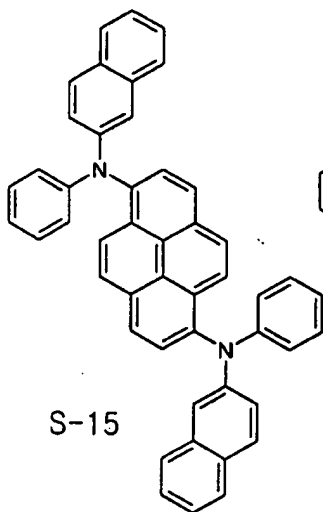
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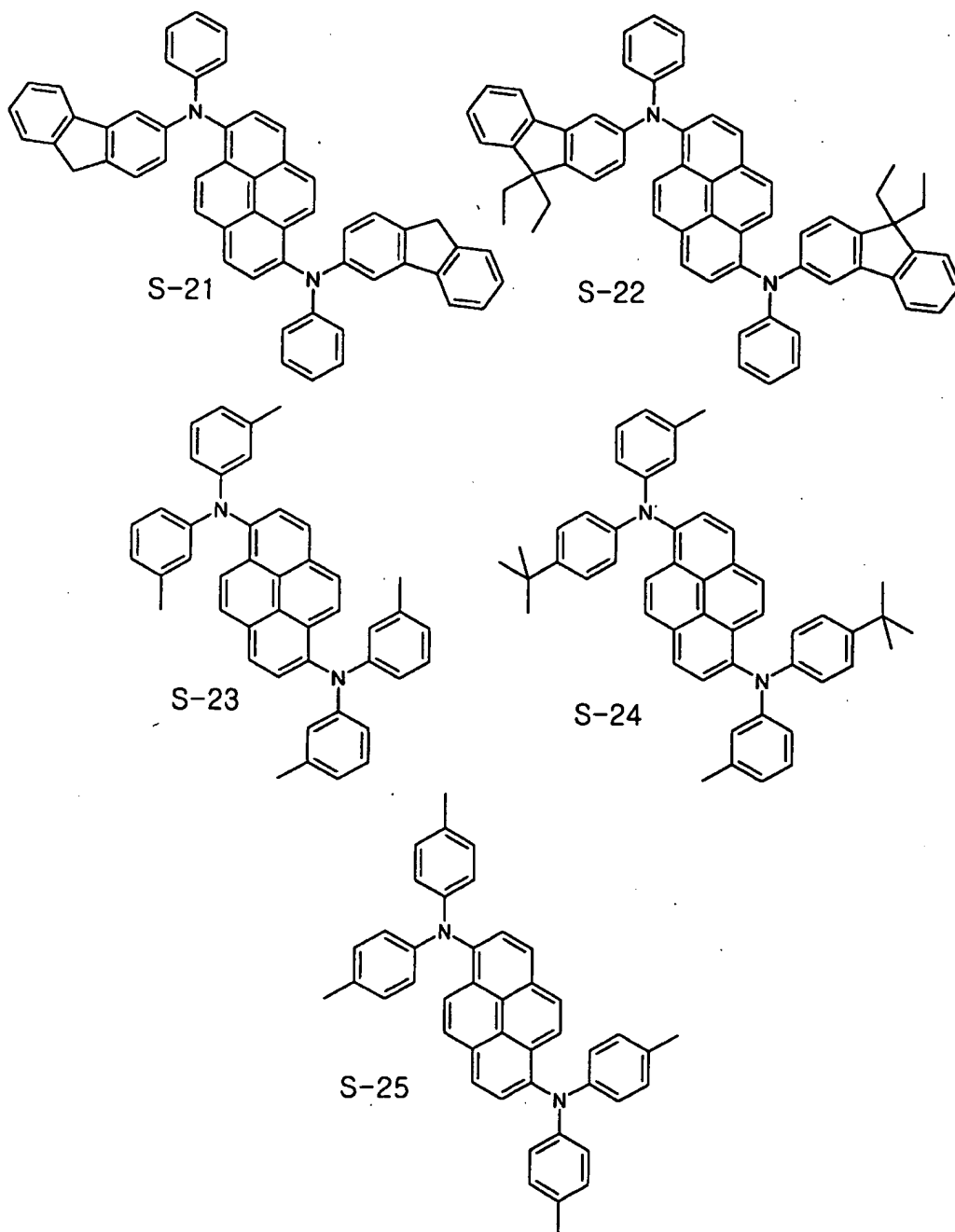
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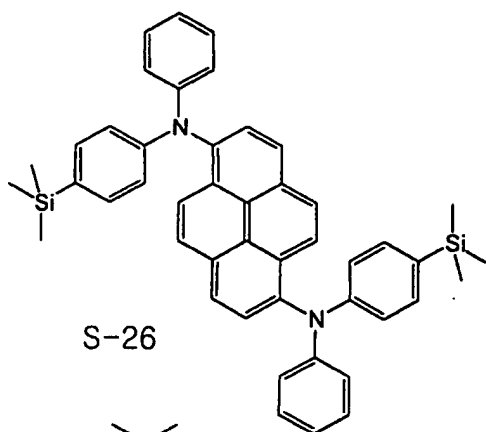
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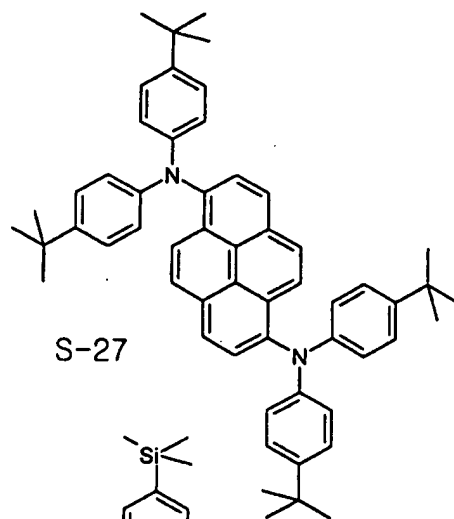
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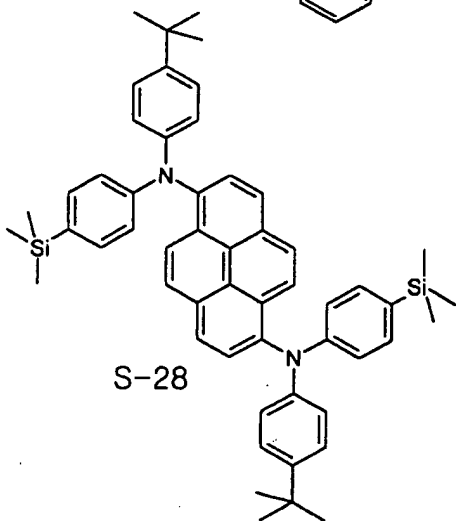
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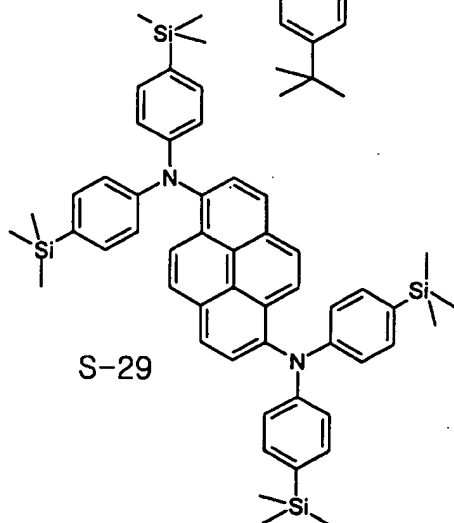
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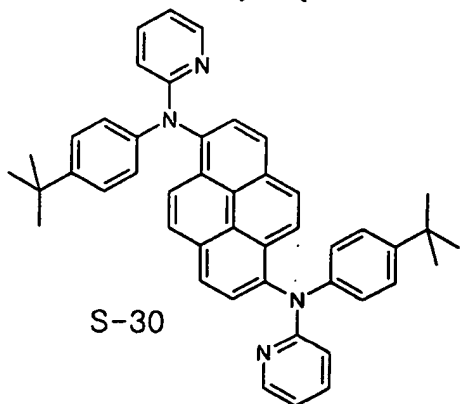
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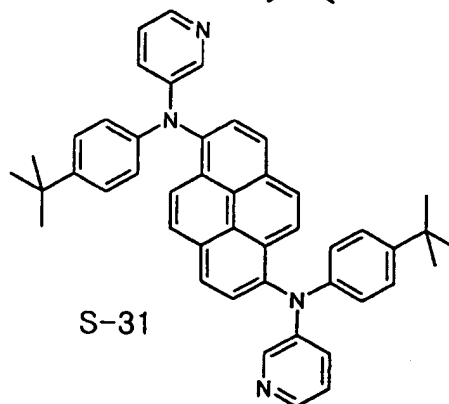
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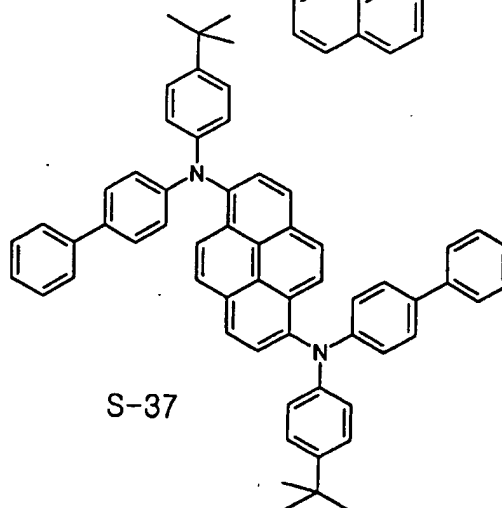
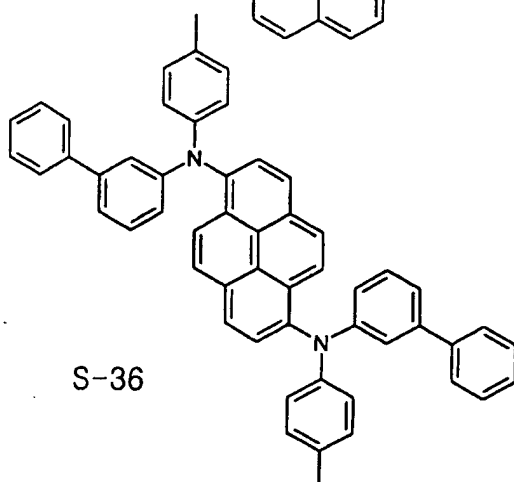
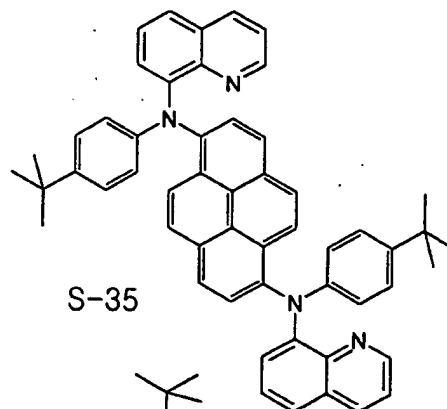
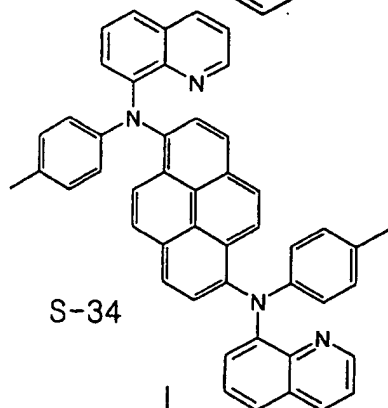
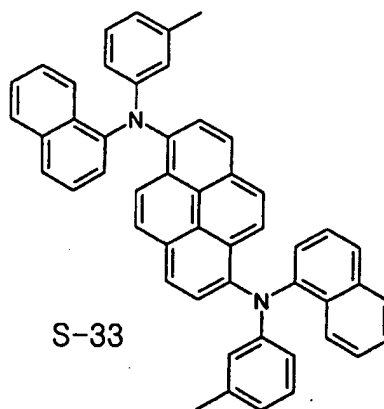
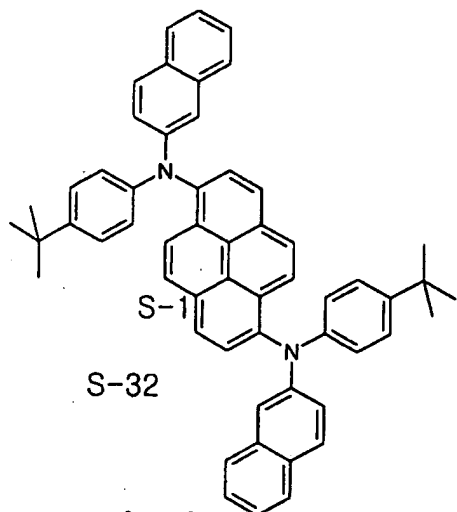
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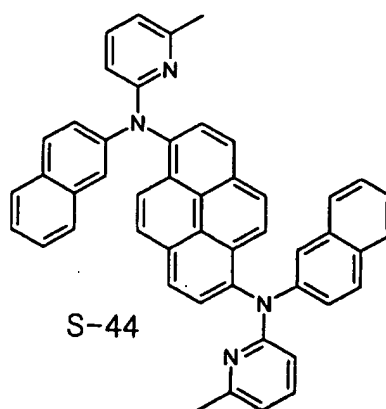
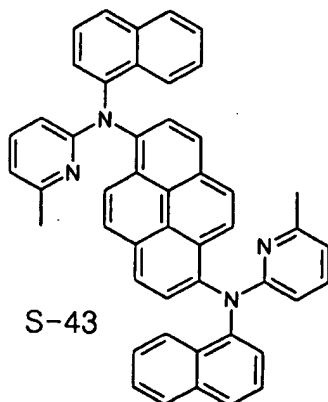
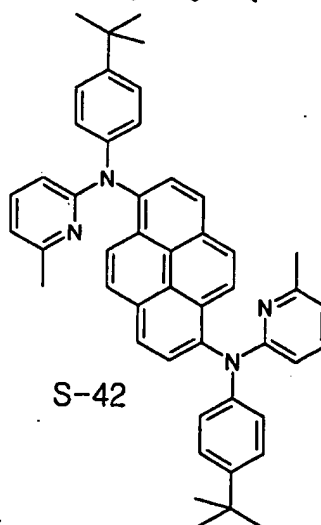
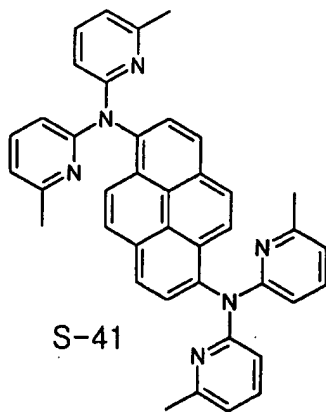
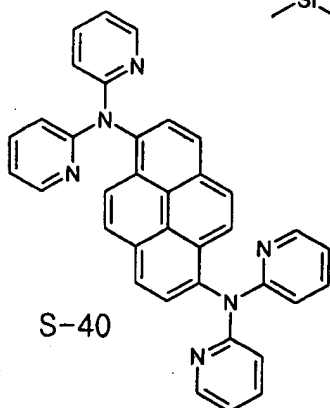
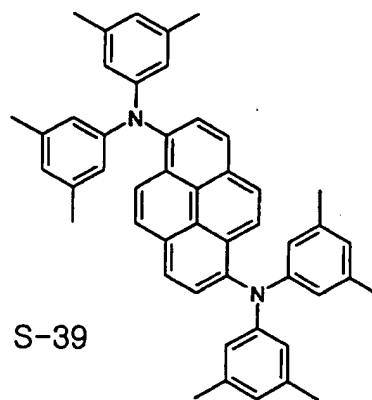
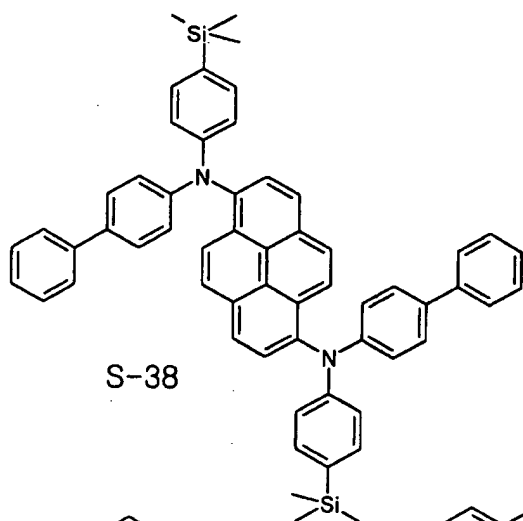
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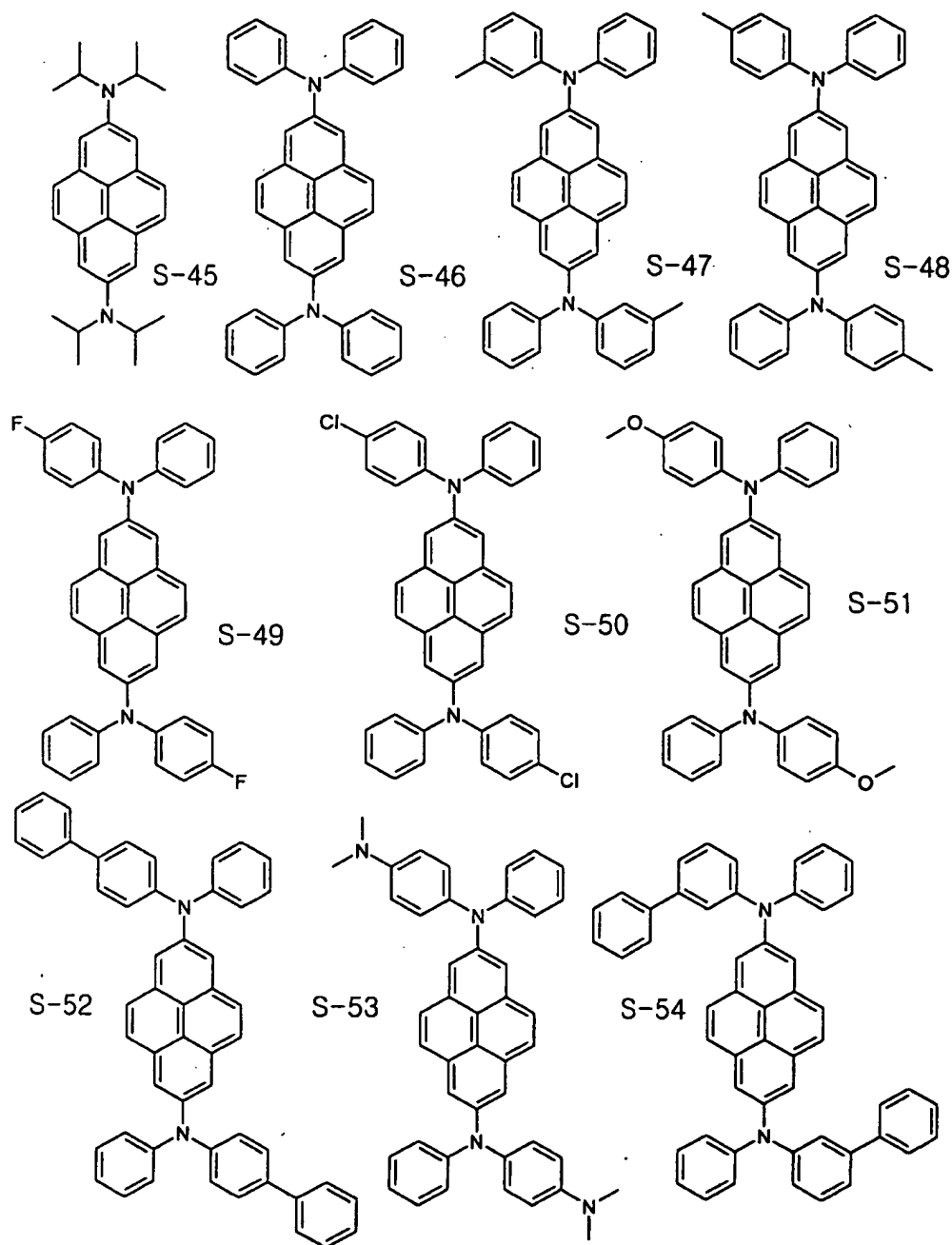
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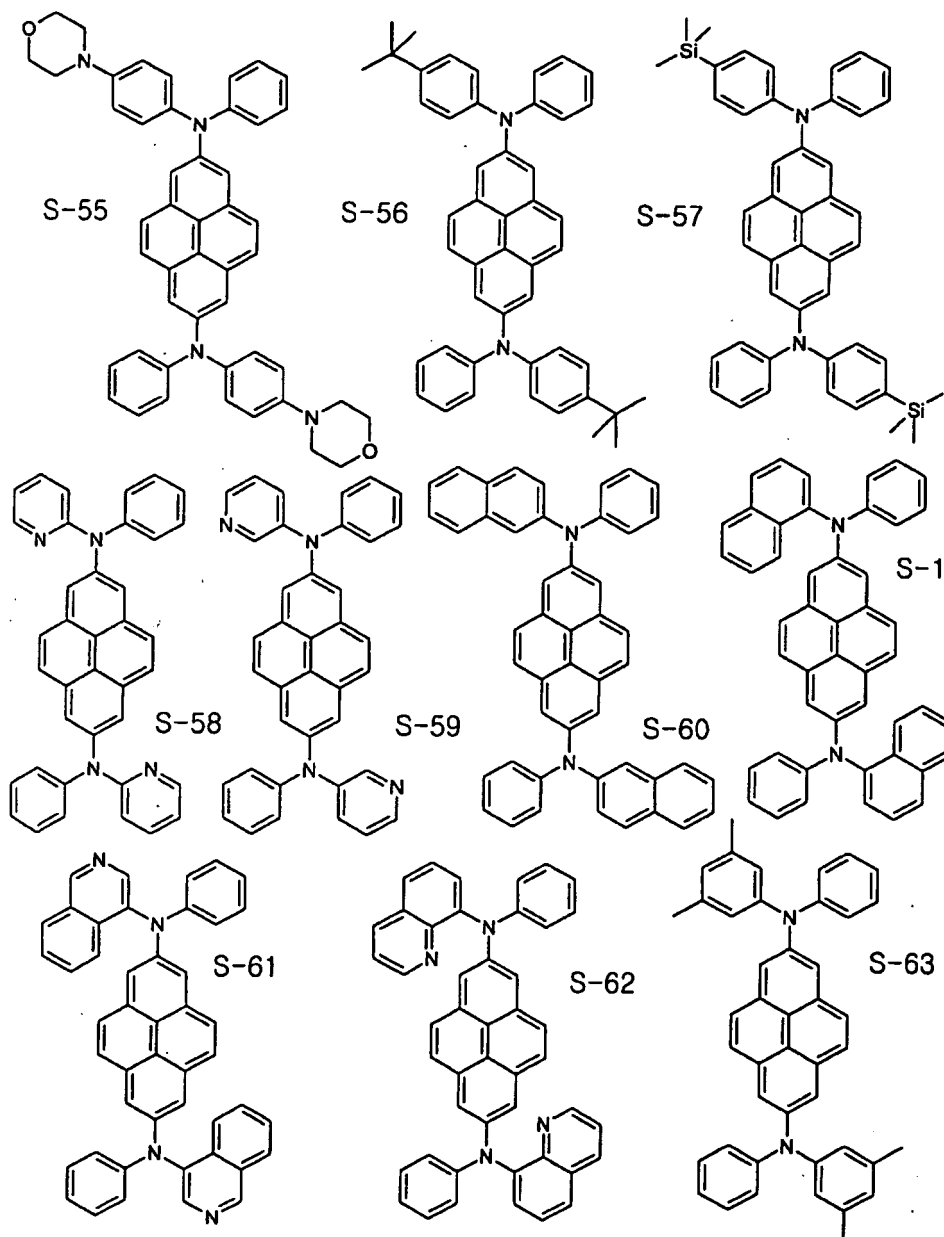
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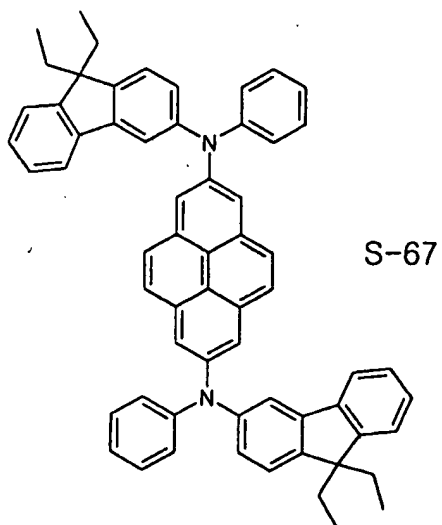
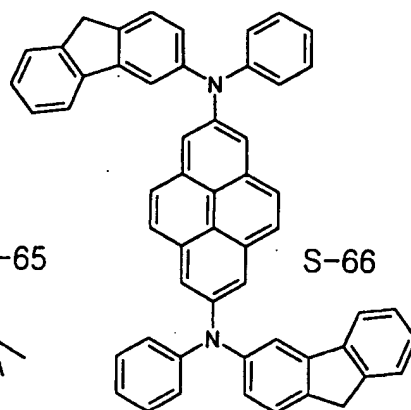
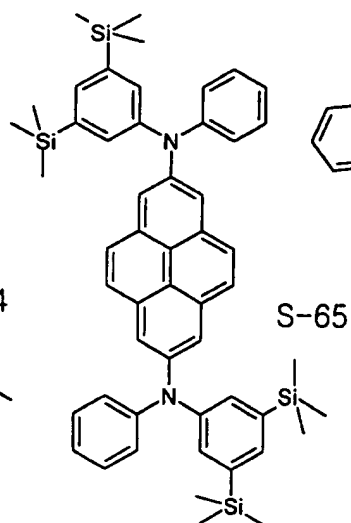
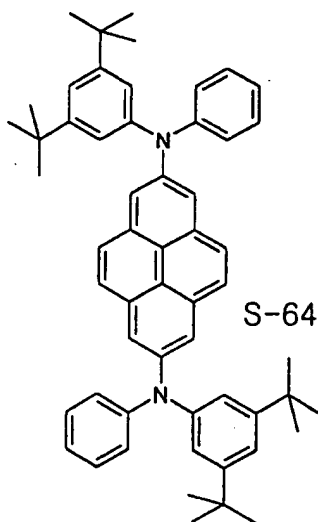
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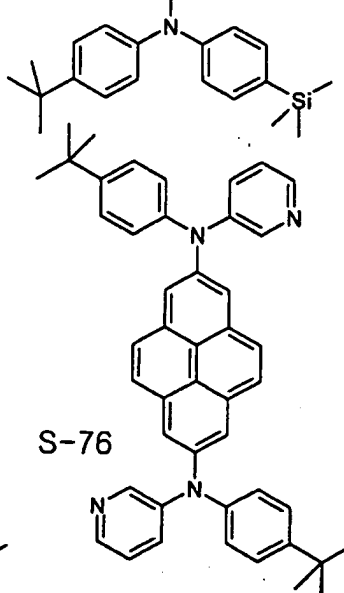
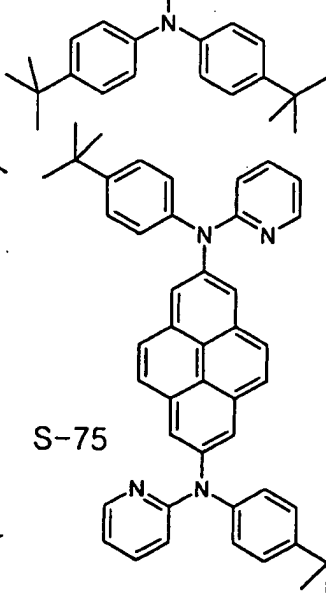
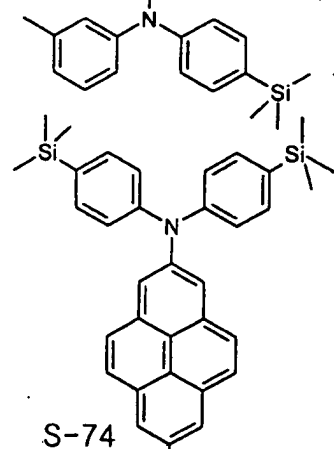
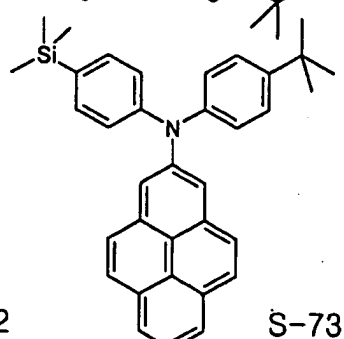
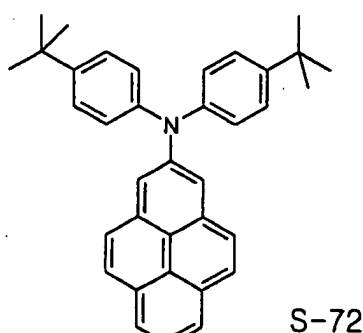
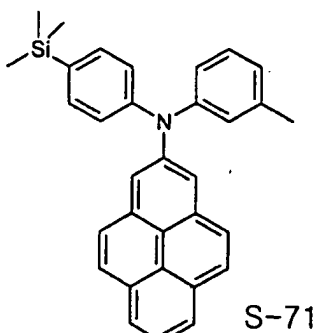
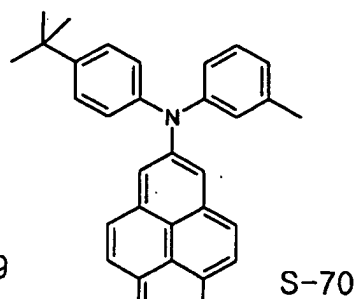
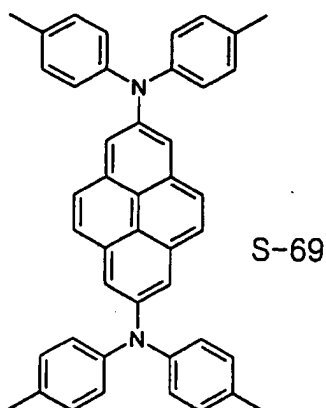
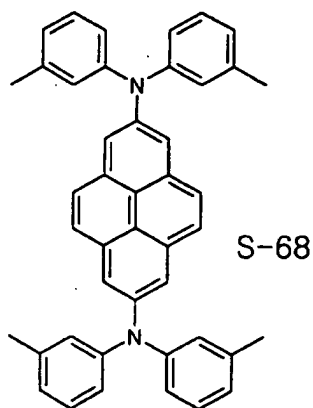
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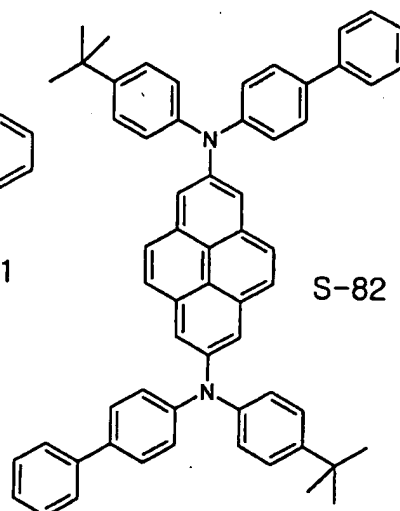
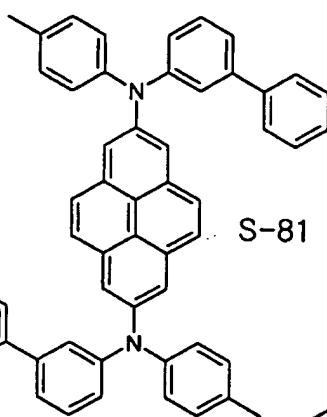
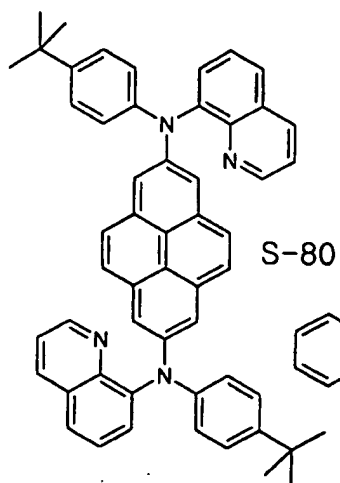
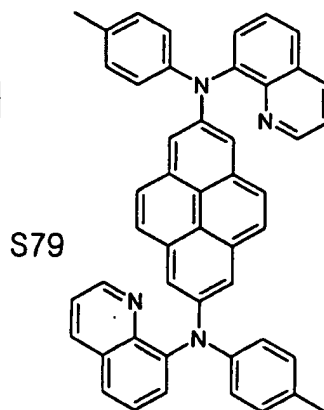
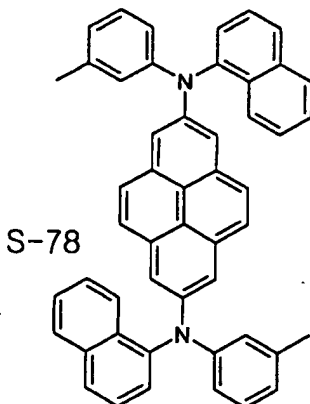
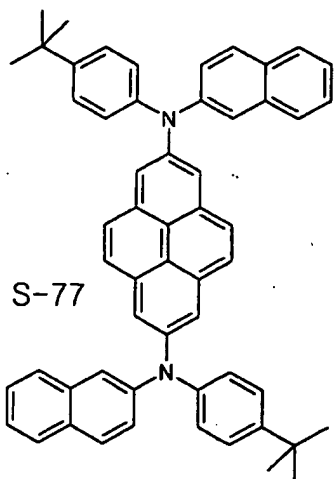
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Serial No. 10/743,778

Docket No. K-0597

Amendment dated January 31, 2007

Reply to Office Action of September 1, 2006



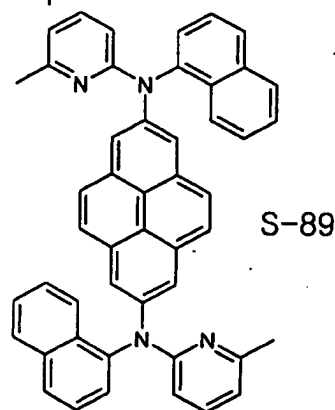
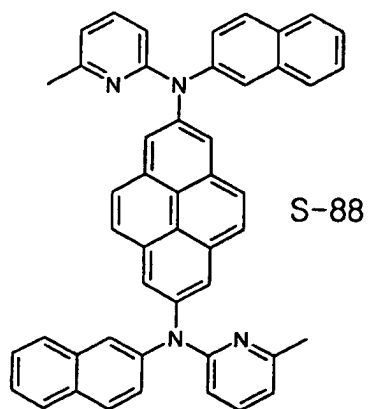
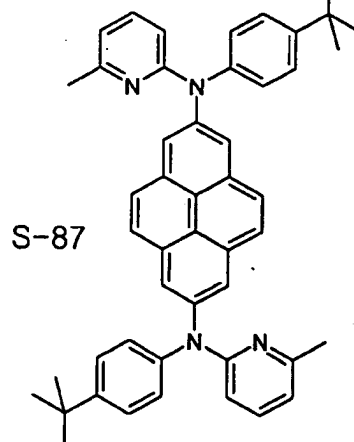
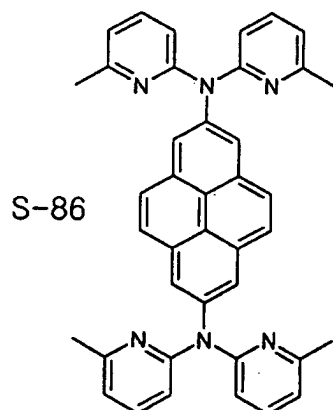
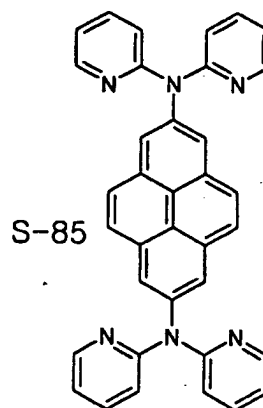
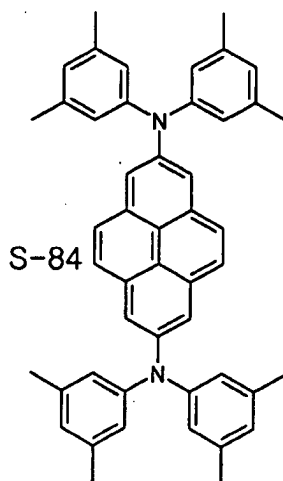
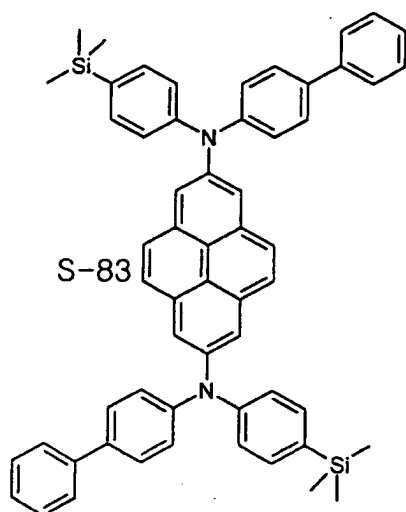
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Serial No. 10/743,778

Docket No. K-0597

Amendment dated January 31, 2007

Reply to Office Action of September 1, 2006



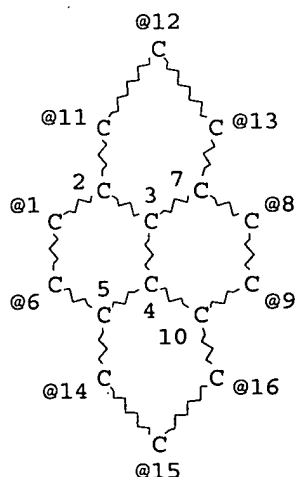
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L5

STR



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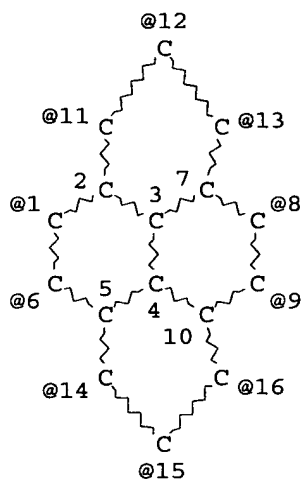
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RSPEC I

NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

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 L9 23 SEA FILE=HCAPLUS ABB=ON PLU=ON L8
 L10 754 SEA FILE=HCAPLUS ABB=ON PLU=ON L7
 L11 731 SEA FILE=HCAPLUS ABB=ON PLU=ON L10 NOT L9
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G1~N~G1
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VAR G1=AK/CB

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NODE ATTRIBUTES:

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MLEVEL IS CLASS AT 11 12 13 14 15 16

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS UNLIMITED AT 11 12 13 14 15 16

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

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L45 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1220376 HCAPLUS
DOCUMENT NUMBER: 143:485899
TITLE: Aromatic amine derivative, organic
electroluminescent element employing the same, and
process for producing aromatic amine derivative
INVENTOR(S): Funahashi, Masakazu
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
SOURCE: PCT Int. Appl., 87 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005108348	A1	20051117	WO 2004-JP14020	20040917
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1746085	A1	20070124	EP 2004-773404	20040917
R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR			
PRIORITY APPLN. INFO.:			JP 2004-141900	A 20040512
			WO 2004-JP14020	W 20040917

OTHER SOURCE(S): MARPAT 143:485899

ED Entered STN: 18 Nov 2005

AB An aromatic amine derivative having a specific structure comprising a substituted pyrene structure and a substituted diphenylamino group bonded thereto; an organic electroluminescent element comprising a cathode, an anode, and an organic thin film layer sandwiched therebetween which is composed of one or more layers comprising a luminescent

layer, wherein at least one layer of the organic thin film layer consists of the aromatic amine derivative alone or contains the derivative as a component

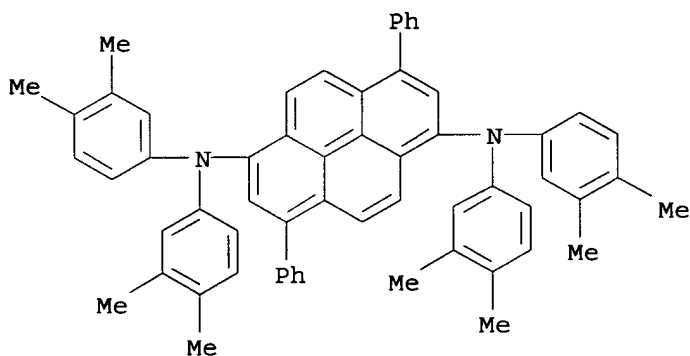
of a mixture; and a process for producing the aromatic amine derivative. The organic electroluminescent element has a long life and a high luminescent efficiency and emits a blue color. The aromatic amine derivative realizes the element.

IT 764657-27-4 869496-81-1 869496-83-3

(aromatic amine derivative, organic electroluminescent element employing the same, and process for producing aromatic amine derivative)

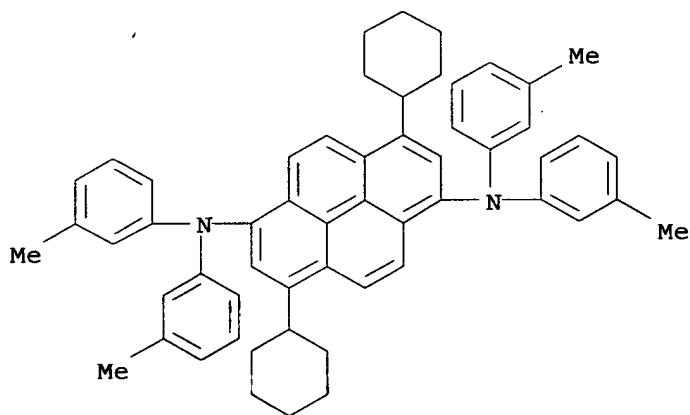
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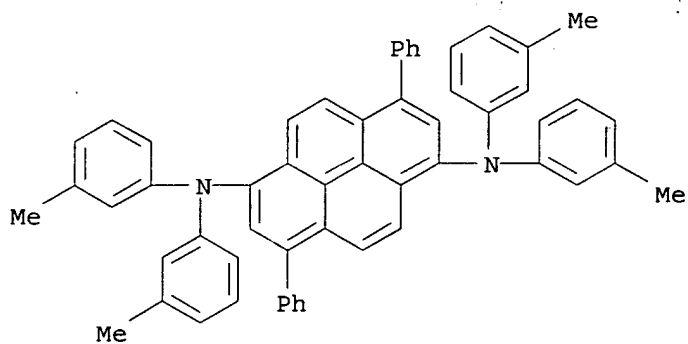
RN 869496-81-1 HCAPLUS

CN 1,6-Pyrenediamine, 3,8-dicyclohexyl-N,N,N',N'-tetrakis(3-methylphenyl)- (9CI) (CA INDEX NAME)



RN 869496-83-3 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis(3-methylphenyl)-3,8-diphenyl-(9CI) (CA INDEX NAME)

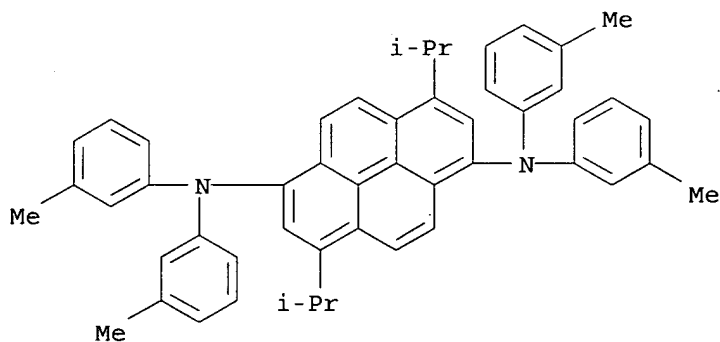


IT 869340-07-8P 869496-76-4P 869496-77-5P
 869496-78-6P 869496-79-7P 869496-80-0P
 869496-82-2P 869496-84-4P 869496-89-9P

(aromatic amine derivative, organic electroluminescent element employing the same, and process for producing aromatic amine derivative)

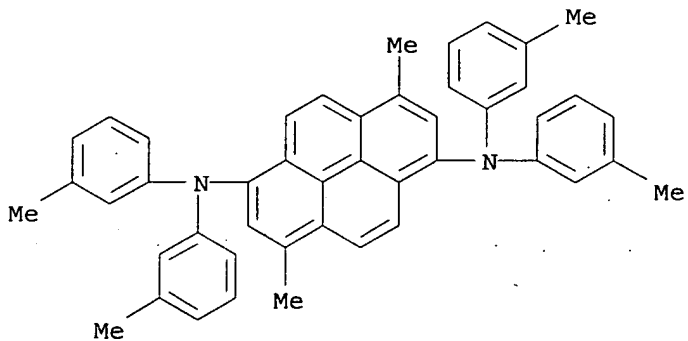
RN 869340-07-8 HCAPLUS

CN 1,6-Pyrenediimine, 3,8-bis(1-methylethyl)-N,N,N',N'-tetrakis(3-methylphenyl)- (9CI) (CA INDEX NAME)



RN 869496-76-4 HCAPLUS

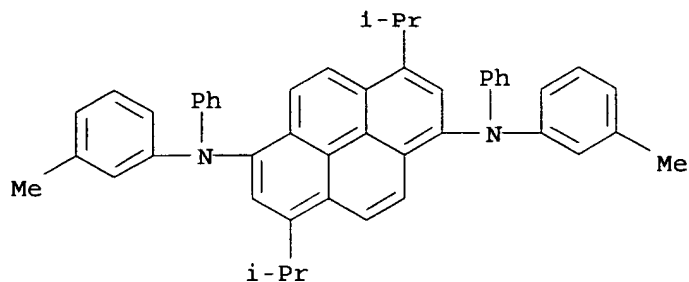
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RN 869496-77-5 HCAPLUS

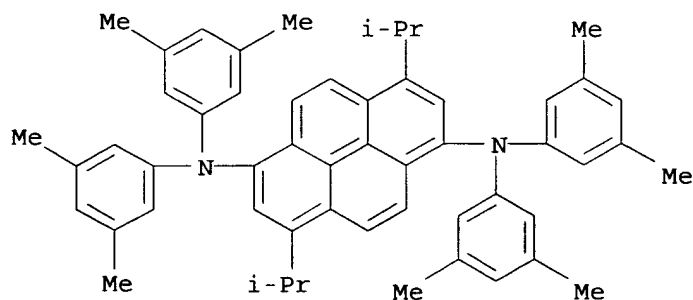
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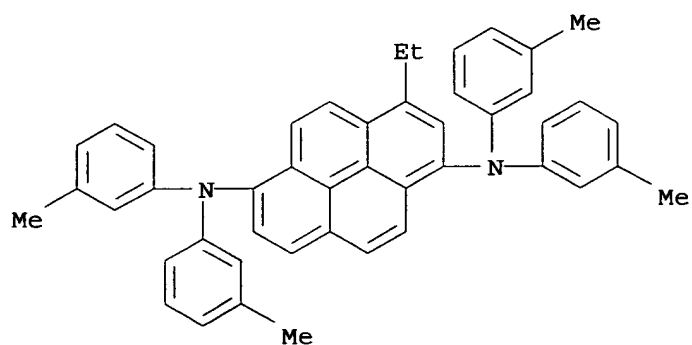
RN 869496-78-6 HCAPLUS

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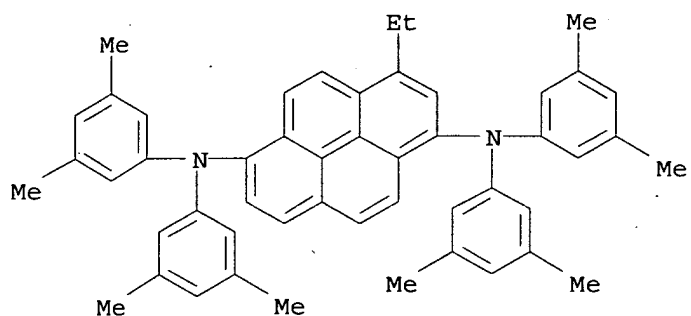
RN 869496-79-7 HCAPLUS

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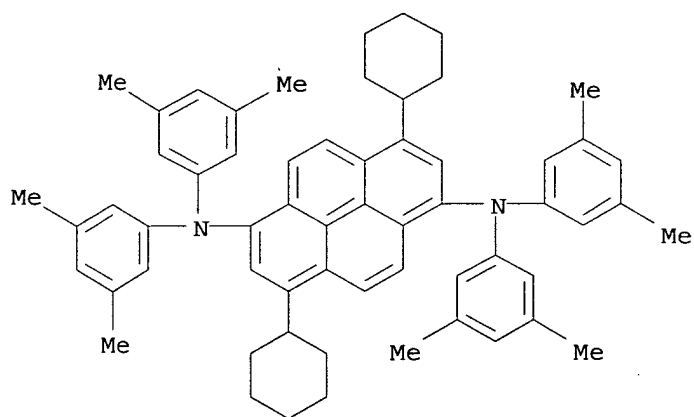
RN 869496-80-0 HCAPLUS

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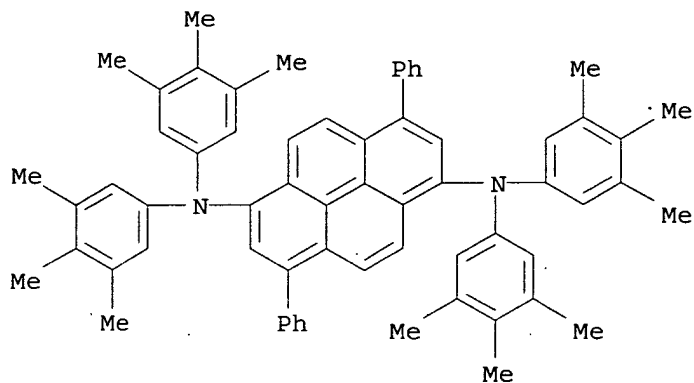
RN 869496-82-2 HCAPLUS

CN 1,6-Pyrenediimine, 3,8-dicyclohexyl-N,N,N',N'-tetrakis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)



RN 869496-84-4 HCAPLUS

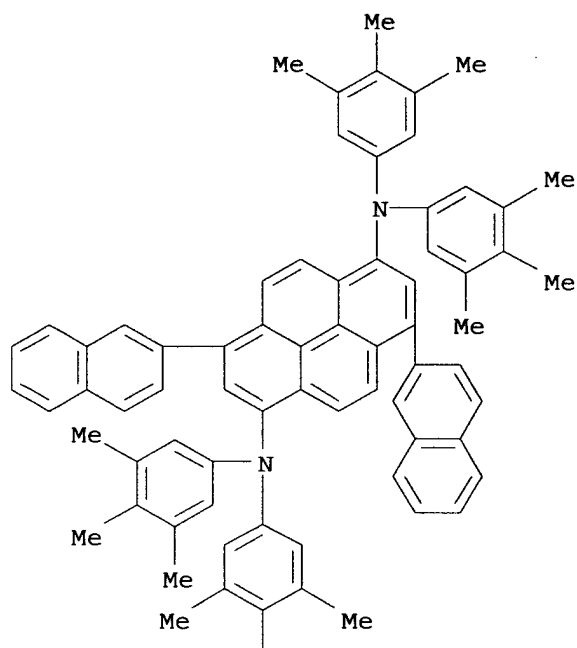
CN 1,6-Pyrenediimine, 3,8-diphenyl-N,N,N',N'-tetrakis(3,4,5-trimethylphenyl)- (9CI) (CA INDEX NAME)



RN 869496-89-9 HCAPLUS

CN 1,6-Pyrenediimine, 3,8-di-2-naphthalenyl-N,N,N',N'-tetrakis(3,4,5-trimethylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

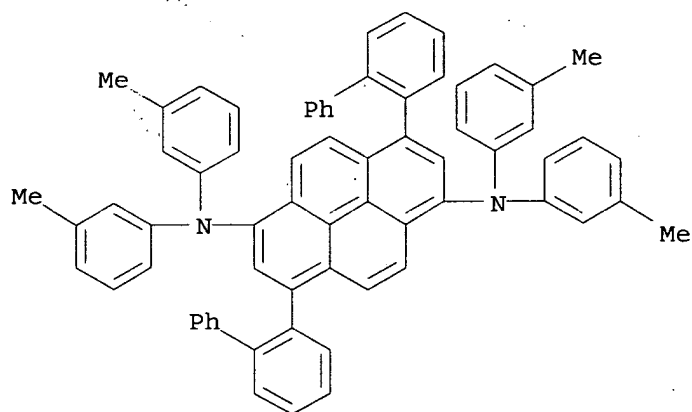


IT 869496-85-5P 869496-86-6P 869496-87-7P
869496-88-8P

(aromatic amine derivative, organic electroluminescent element employing the same, and process for producing aromatic amine derivative)

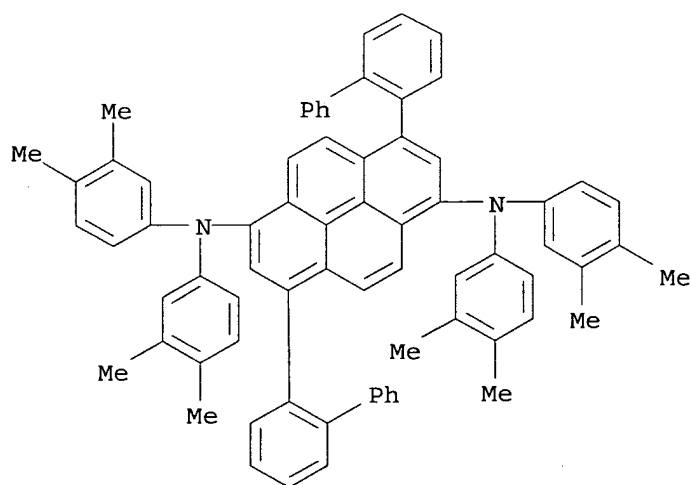
RN 869496-85-5 HCAPLUS

CN 1,6-Pyrenediimine, 3,8-bis[1,1'-biphenyl]-2-yl-N,N,N',N'-tetrakis(3-methylphenyl)- (9CI) (CA INDEX NAME)



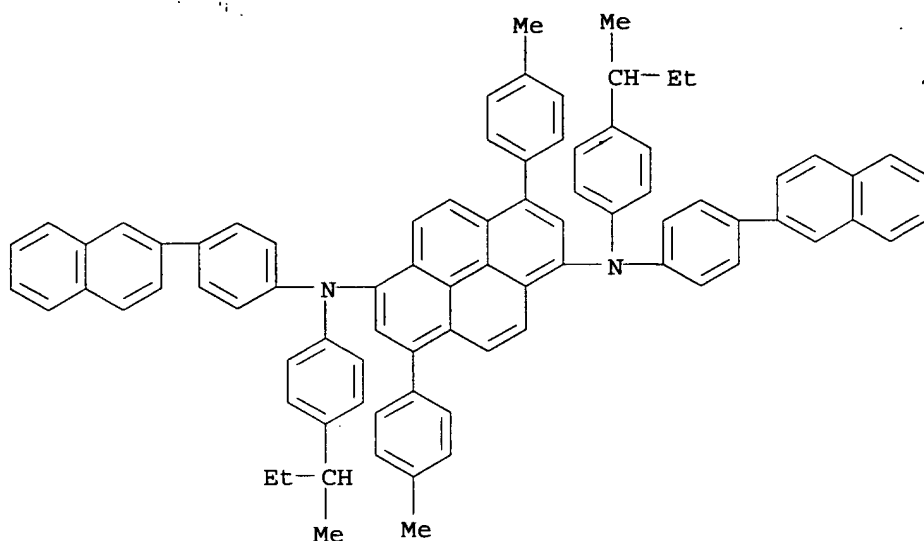
RN 869496-86-6 HCAPLUS

CN 1,6-Pyrenediimine, 3,8-bis[1,1'-biphenyl]-2-yl-N,N,N',N'-tetrakis(3,4-dimethylphenyl)- (9CI) (CA INDEX NAME)

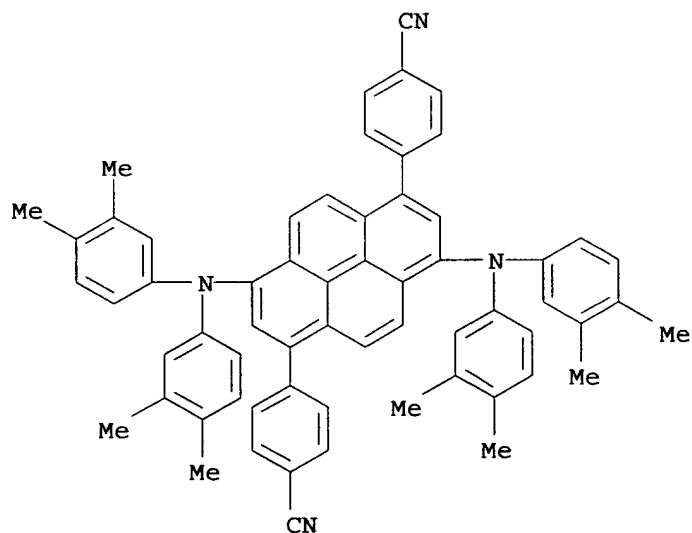


RN 869496-87-7 HCAPLUS

CN 1,6-Pyrenediimine, 3,8-bis(4-methylphenyl)-N,N'-bis[4-(1-methylpropyl)phenyl]-N,N'-bis[4-(2-naphthalenyl)phenyl]- (9CI) (CA INDEX NAME)



RN 869496-88-8 HCAPLUS
 CN Benzonitrile, 4,4'-[3,8-bis[bis(3,4-dimethylphenyl)amino]-1,6-pyrenediyl]bis- (9CI) (CA INDEX NAME)



IC ICM C07C211-61
 ICS C07C209-10; C07B061-00; C09K011-06; H05B033-14; G03G005-06
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 25, 73
 ST arom amine org electroluminescent device manuf blue green emitting; charge transport arom amine electrophotog photoconductor
 IT Electroluminescent devices
 (blue-emitting; aromatic amine derivative, organic electroluminescent element employing the same, and process for producing aromatic amine derivative)

IT 764657-27-4 869496-81-1 869496-83-3
 (aromatic amine derivative, organic electroluminescent element employing the same, and process for producing aromatic amine derivative)
 IT 869340-07-8P 869496-76-4P 869496-77-5P
 869496-78-6P 869496-79-7P 869496-80-0P
 869496-82-2P 869496-84-4P 869496-89-9P
 (aromatic amine derivative, organic electroluminescent element employing the same, and process for producing aromatic amine derivative)
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 869496-88-8P
 (aromatic amine derivative, organic electroluminescent element employing the same, and process for producing aromatic amine derivative)
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2005:962579 HCAPLUS
 DOCUMENT NUMBER: 143:256816
 TITLE: White organic electroluminescence device
 INVENTOR(S): Tokairin, Hiroshi; Fukuoka, Kenichi; Kubota, Mineyuki; Funahashi, Masakazu
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 63 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005081587	A1	20050901	WO 2005-JP2442	20050217
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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1718124	A1	20061102	EP 2005-719244	20050217
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
CN 1879454	A	20061213	CN 2005-80001270	20050217
US 2007063638	A1	20070322	US 2006-573661	20060328
PRIORITY APPLN. INFO.:			JP 2004-42694	A 20040219
			WO 2005-JP2442	W 20050217

ED Entered STN: 02 Sep 2005
 AB The invention refers to a white organic electroluminescence device comprising a neg. electrode and a pos. electrode and, interposed there between, one or more organic thin film layers including at least a light emitting layer, wherein the light emitting layer is constituted of a laminate of blue color light emitting

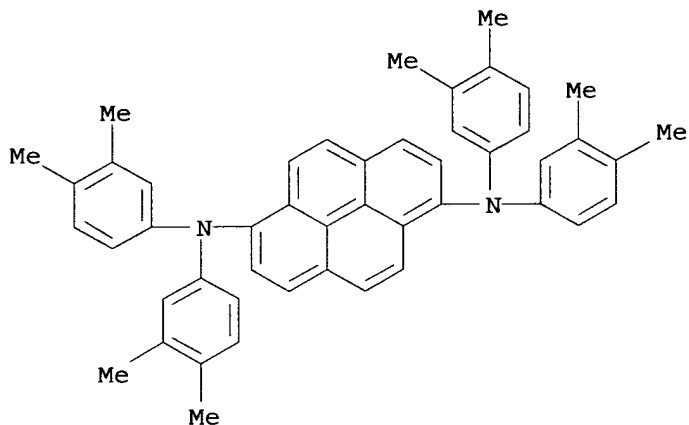
layer and yellow-to-red color light emitting layer and contains an asym. condensed-ring-containing compound. This white color organic electroluminescence device realizes reduced chromaticity changes and excels in luminous efficiency and thermal stability, ensuring strikingly prolonged service life.

IT 764657-26-3

(white color organic electroluminescence device)

RN 764657-26-3 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis(3,4-dimethylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

ICS C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 154853-83-5 331965-31-2 667940-34-3 667940-36-5

764657-26-3 853945-27-4 853945-29-6 853945-34-3

855828-33-0 863292-27-7 863292-28-8 863292-29-9

(white color organic electroluminescence device)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:1035604 HCAPLUS

DOCUMENT NUMBER: 142:29757

TITLE: Dibenzospiro compounds, their organic solutions for manufacture of luminescent films, and **blue-emitting** organic

electroluminescent devices using them

INVENTOR(S): Inoue, Tetsuya; Ikeda, Shuji; Hosokawa, Chishio

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 49 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004339136	A	20041202	JP 2003-136838	20030515

WO 2004110968 A1 20041223 WO 2004-JP6331 20040430
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL,
PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG
EP 1623968 A1 20060208 EP 2004-730688 20040430
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK
CN 1791567 A 20060621 CN 2004-80013354 20040430
US 2007042220 A1 20070222 US 2005-556530 20051114
PRIORITY APPLN. INFO.: JP 2003-136838 A 20030515
WO 2004-JP6331 W 20040430

OTHER SOURCE(S): MARPAT 142:29757
ED Entered STN: 03 Dec 2004
GI

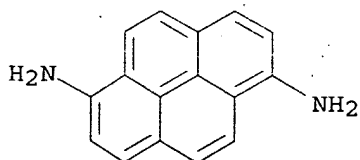
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The compds. are (Sp)_nXY_m [Sp = dibenzospiro groups I; L = single bond, (CR'R'')_e, (SiR'R'')_e, O, CO, NR'; R', R'' = H, 6-50-membered aromatic group, 5-50-membered aromatic heterocyclylene, C1-50 alkyl; Z = C, Si, Ge; Q = groups necessary for forming cyclic structure; R = 6-50-membered aromatic group, 5-50-membered aromatic heterocyclyl, C1-50 alkyl, etc.; X = 6-50-membered aromatic group, 12-20-membered condensed aromatic group, 5-50-membered aromatic heterocyclylene other than (poly)anthracenediyl; Y = (vinyl linkage-containing) 6-50-membered aromatic group; a, b = 0-4; e = 1-10; m = 0-2; n = 1-4]. The compds. show good heat resistance and organic solvent solubility. Thus, di(spiroindane fluorenyl)benzene II was manufactured and used for a **blue-emitting** organic electroluminescent device.

IT 14923-84-3, 1,6-Diaminopyrene
(manufacture of dibenzospiro compds. showing good heat resistance and organic solvent solubility as **emitter** layers for **blue-emitting** organic electroluminescent devices)

RN 14923-84-3 HCAPLUS

CN 1,6-Pyrenediamine (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C07C013-72

ICS C09K011-06; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25

ST dibenzospiro compd **blue emitting** org
electroluminescent device; solvent soly dibenzospiro compd org
electroluminescent device; heat resistance dibenzospiro compd org
electroluminescent device; spiroindane fluorenyl
diphenylvinylphenylanthranyl benzene **blue emitting**
org electroluminescent device

IT Electroluminescent devices
(**blue-emitting**; manufacture of dibenzospiro compds.
showing good heat resistance and organic solvent solubility as
emitter layers for **blue-emitting** organic
electroluminescent devices)

IT Luminescent substances
(electroluminescent; manufacture of dibenzospiro compds. showing good
heat resistance and organic solvent solubility as **emitter** layers
for **blue-emitting** organic electroluminescent
devices)

IT 799560-00-2P 799560-15-9P 799560-18-2P 799560-29-5P
799560-31-9P 799560-33-1P
(manufacture of dibenzospiro compds. showing good heat resistance and
organic solvent solubility as **emitter** layers for **blue-**
emitting organic electroluminescent devices)

IT 27973-29-1P, 1,6-Dibromopyrene 131222-99-6P, 6,12-Dibromochrysene
349666-30-4P 401941-41-1P 401941-44-4P 441771-49-9P
797056-47-4P 799559-86-7P 799559-89-0P 799559-93-6P
799560-08-0P 799560-11-5P 799560-24-0P 799560-27-3P
(manufacture of dibenzospiro compds. showing good heat resistance and
organic solvent solubility as **emitter** layers for **blue-**
emitting organic electroluminescent devices)

IT 110-52-1, 1,4-Dibromobutane 218-01-9, Chrysene 624-38-4,
1,4-Diiodobenzene 1133-80-8, 2-Bromofluorene **14923-84-3**,
1,6-Diaminopyrene 16433-88-8, 2,7-Dibromofluorene 22362-86-3,
9-Iodoanthracene 38622-14-9, α,α' -Dibromoxylene
117695-55-3 288105-04-4
(manufacture of dibenzospiro compds. showing good heat resistance and
organic solvent solubility as **emitter** layers for **blue-**
emitting organic electroluminescent devices)

L45 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:799549 HCAPLUS

DOCUMENT NUMBER: 141:304000

TITLE: Process for preparation of 1,6-
bis(diphenylamino)pyrene derivatives as
electroluminescent devices

INVENTOR(S): Funahashi, Masakazu

PATENT ASSIGNEE(S): Idemitsu Kosan Co. Ltd., Japan

SOURCE: PCT Int. Appl., 51 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

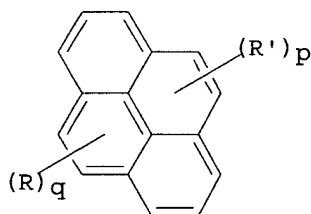
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004083162	A1	20040930	WO 2004-JP2945	20040308
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,				

CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
 KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
 MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
 SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
 VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE,
 DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT,
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
 ML, MR, NE, SN, TD, TG
 EP 1604974 A1 20051214 EP 2004-718430 20040308
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
 PL, SK
 CN 1784376 A 20060607 CN 2004-80012602 20040308
 US 2007009758 A1 20070111 US 2005-549801 20051121
 PRIORITY APPLN. INFO.: JP 2003-76772 A 20030320
 WO 2004-JP2945 W 20040308

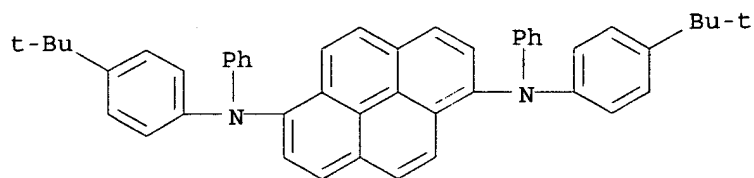
OTHER SOURCE(S): MARPAT 141:304000
 ED Entered STN: 30 Sep 2004
 GI



AB This invention pertains to a method for producing (diphenylamino)pyrene derivs. I [wherein R = H, (un)substituted alkyl, aryl, aralkyl, etc.; R' = (un)substituted diphenylamino; q = 1-9; p = 1-9; with limitation of p + q < 10], which are useful as electroluminescent devices. For example, 1,6-dibromopyrene was reacted with 4-isopropyldiphenylamine in toluene in the presence of Pd(OAc)₂, t-Bu₃P, and t-BuONa to give 1,6-bis(4-isopropyldiphenylamino)pyrene. I were tested as organic electroluminescent devices which have a long life and emit a blue color at a high luminescence efficiency.

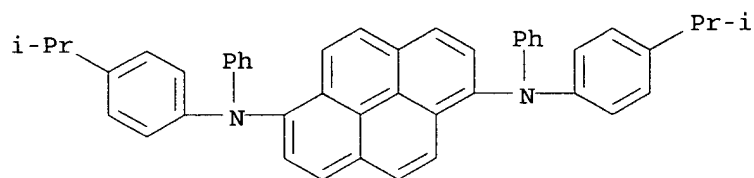
IT 722498-84-2P 764657-23-0P 764657-24-1P
 764657-25-2P 764657-26-3P 764657-27-4P
 (preparation of bis(diphenylamino)pyrene derivs. as electroluminescent devices)

RN 722498-84-2 HCAPLUS
 CN 1,6-Pyrenediamine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-diphenyl-
 (9CI) (CA INDEX NAME)



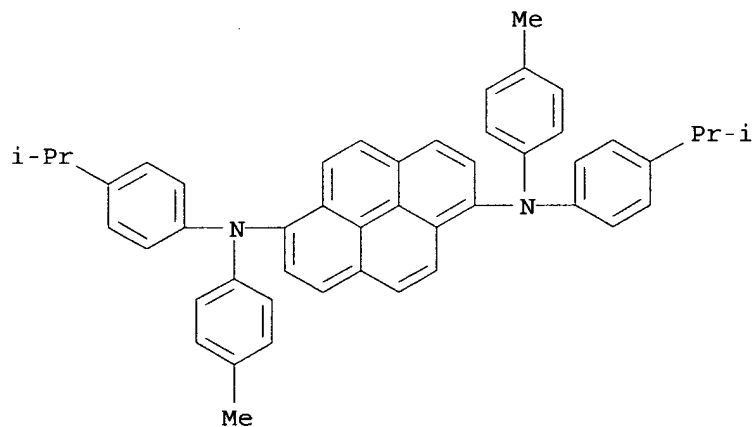
RN 764657-23-0 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis[4-(1-methylethyl)phenyl]-N,N'-diphenyl-
(9CI) (CA INDEX NAME)



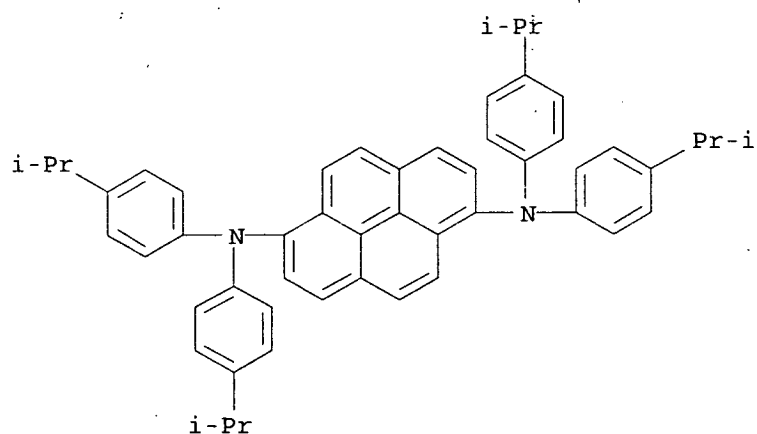
RN 764657-24-1 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis[4-(1-methylethyl)phenyl]-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



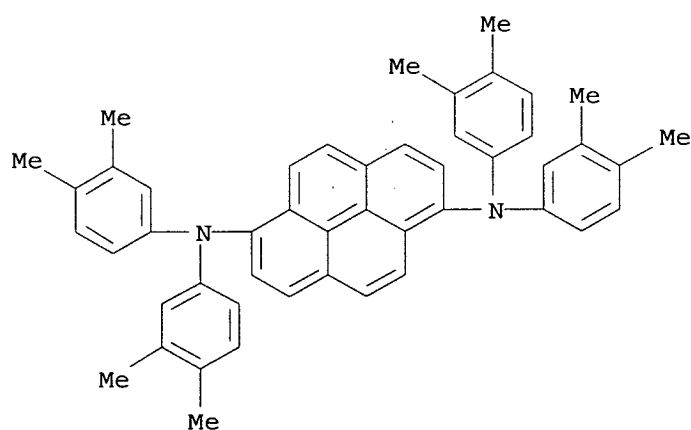
RN 764657-25-2 HCAPLUS

CN 1,6-Pyrenediimine, N,N,N',N'-tetrakis[4-(1-methylethyl)phenyl]- (9CI)
(CA INDEX NAME)



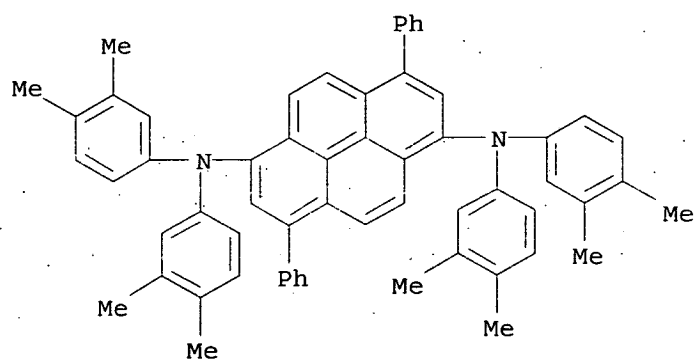
RN 764657-26-3 HCAPLUS

CN 1,6-Pyrenediimine, N,N,N',N'-tetrakis(3,4-dimethylphenyl)- (9CI) (CA INDEX NAME)



RN 764657-27-4 HCAPLUS

CN 1,6-Pyrenediimine, N,N,N',N'-tetrakis(3,4-dimethylphenyl)-3,8-diphenyl- (9CI) (CA INDEX NAME)

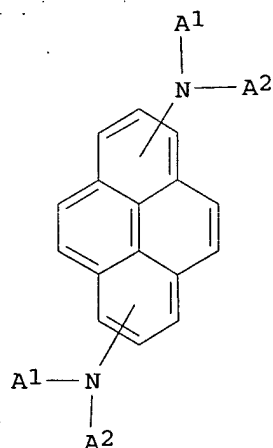


IC ICM C07C211-61
ICS H05B033-14
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
IT 722498-84-2P 764657-23-0P 764657-24-1P
764657-25-2P 764657-26-3P 764657-27-4P
(preparation of bis(diphenylamino)pyrene derivs. as electroluminescent devices)
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:568210 HCAPLUS
DOCUMENT NUMBER: 141:131023
TITLE: Organic electroluminescent devices employing blue-emitting dopants based on amine derivatives of pyrene
INVENTOR(S): Seo, Jeong Dae; Lee, Kyung Hoon; Kim, Hee Jung; Park, Chun Gun; Oh, Hyoung Yun
PATENT ASSIGNEE(S): Lg Electronics Inc., S. Korea
SOURCE: Eur. Pat. Appl., 43 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1437395	A2	20040714	EP 2003-29661	20031223
EP 1437395	A3	20050831		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
KR 2004057862	A	20040702	KR 2003-20465	20030401
US 2004137270	A1	20040715	US 2003-743778	20031224
JP 2004204238	A	20040722	JP 2003-428297	20031224
CN 1535089	A	20041006	CN 2003-10124405	20031224
JP 2007027779	A	20070201	JP 2006-245563	20060911
PRIORITY APPLN. INFO.:			KR 2002-83279	A 20021224
			KR 2003-20465	A 20030401
			JP 2003-428297	A3 20031224

OTHER SOURCE(S): MARPAT 141:131023
ED Entered STN: 16 Jul 2004
GI



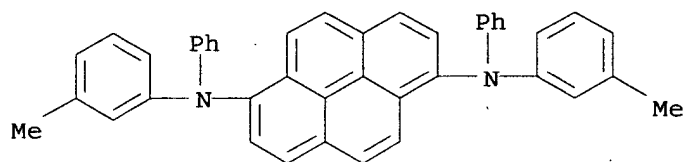
AB Organic electroluminescent devices are described which comprise a substrate; a first and second electrodes formed on the substrate; an emitting layer formed between the first electrode and the second electrode, the emitting layer having a plurality of materials one of which being a **blue**-emitting dopant with general formula (I), where at least one of A1 and A2 is selected from a substituted or non-substituted aromatic group, a heterocyclic group, an aliphatic group and hydrogen. The materials forming the emitting layer together with the material of I may have a chemical formula B1-X-B2 where X is selected from a group consisting of naphthalene, anthracene, phenanthrene, pyrene, perylene, and quinoline and at least 1 of the B1 and B2 is selected from a group consisting of aryl, alkylaryl, alkoxyaryl, arylaminoaryl and alkylaminoaryl.

IT 76656-51-4 143141-30-4 163969-53-7
 663954-33-4 668019-96-3 722498-76-2
 722498-77-3 722498-78-4 722498-79-5
 722498-80-8 722498-81-9 722498-82-0
 722498-83-1 722498-84-2 722498-85-3
 722498-86-4 722498-87-5 722498-89-7
 722498-90-0 722498-91-1 722498-92-2
 722498-93-3 722498-94-4 722498-95-5
 722498-97-7 722498-98-8 722499-00-5
 722499-01-6 722499-04-9 722499-05-0
 722499-06-1 722499-07-2 722499-13-0
 722499-14-1 722499-15-2 722499-16-3
 722499-17-4 722499-18-5 722499-19-6
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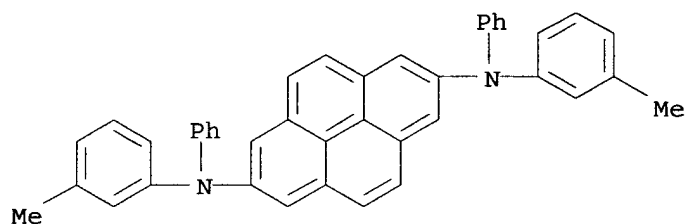
(blue-emitting dopant; organic electroluminescent devices employing **blue**-emitting dopants based on amine derivs. of pyrene)

RN 76656-51-4 HCAPLUS

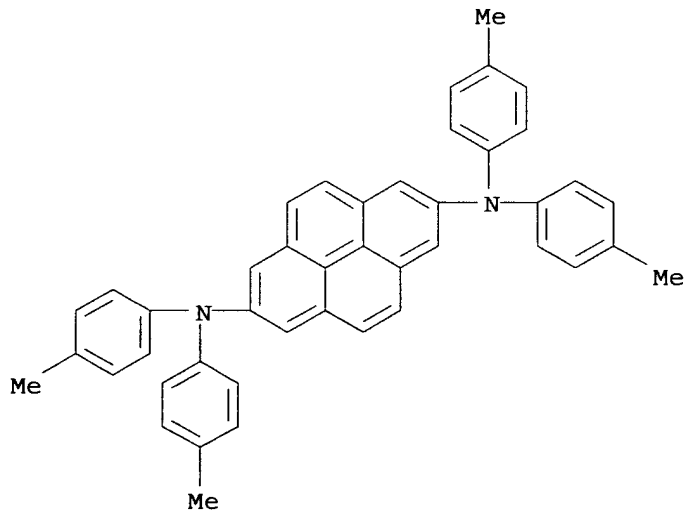
CN 1,6-Pyrenediamine, N,N'-bis(3-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



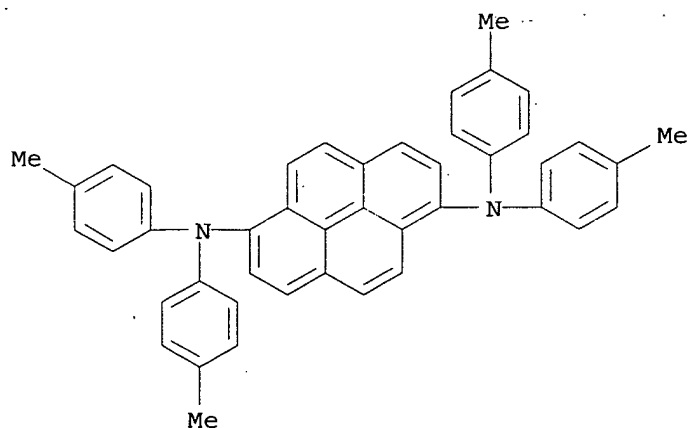
RN 143141-30-4 HCAPLUS
 CN 2,7-Pyrenediimine, N,N'-bis(3-methylphenyl)-N,N'-diphenyl- (9CI) (CA
 INDEX NAME)



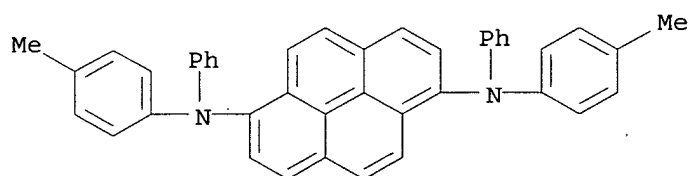
RN 163969-53-7 HCAPLUS
 CN 2,7-Pyrenediimine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA
 INDEX NAME)



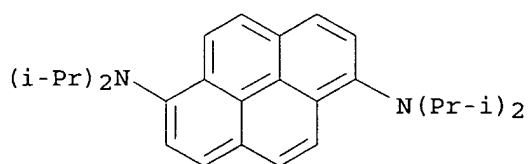
RN 663954-33-4 HCAPLUS
 CN 1,6-Pyrenediimine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA
 INDEX NAME)



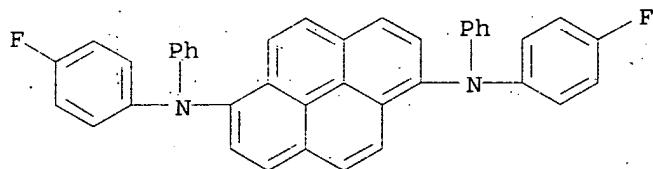
RN 668019-96-3 HCAPLUS
 CN 1,6-Pyrenediamine, N,N'-bis(4-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



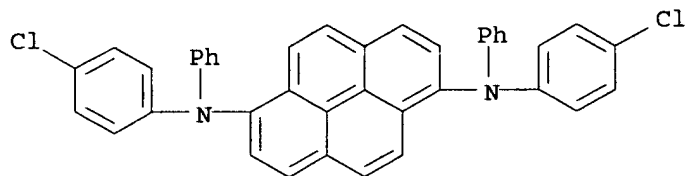
RN 722498-76-2 HCAPLUS
 CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis(1-methylethyl)- (9CI) (CA INDEX NAME)



RN 722498-77-3 HCAPLUS
 CN 1,6-Pyrenediamine, N,N'-bis(4-fluorophenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

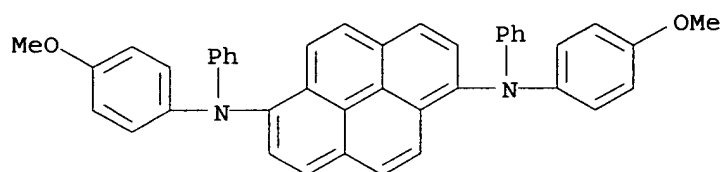


RN 722498-78-4 HCAPLUS
 CN 1,6-Pyrenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



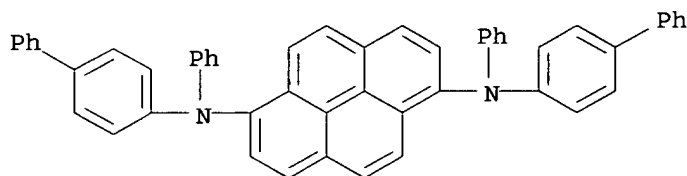
RN 722498-79-5 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis(4-methoxyphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



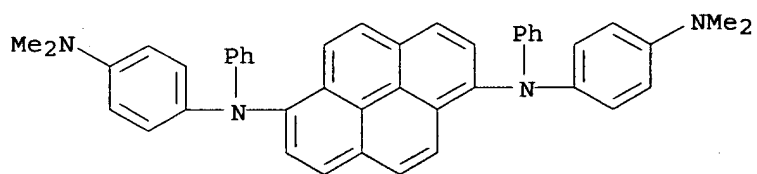
RN 722498-80-8 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis([1,1'-biphenyl]-4-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



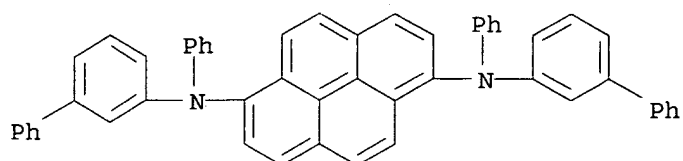
RN 722498-81-9 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis[4-(dimethylamino)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



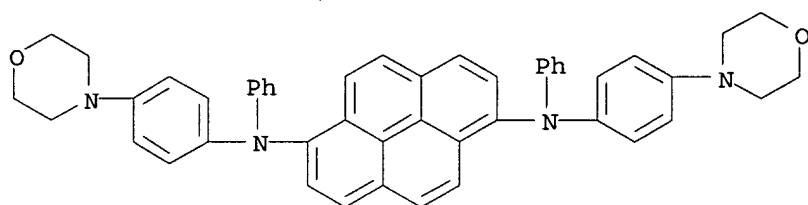
RN 722498-82-0 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis([1,1'-biphenyl]-3-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



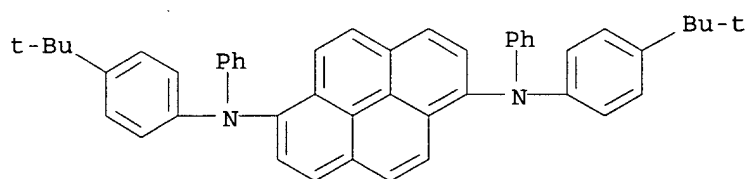
RN 722498-83-1 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis[4-(4-morpholinyl)phenyl]-N,N'-diphenyl-
(9CI) (CA INDEX NAME)



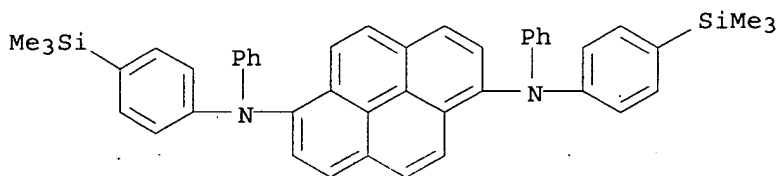
RN 722498-84-2 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-diphenyl-
(9CI) (CA INDEX NAME)



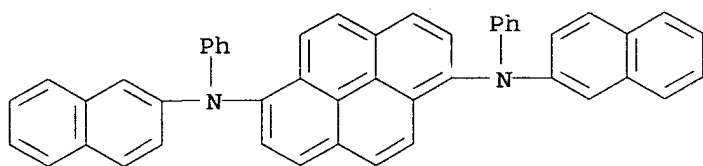
RN 722498-85-3 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-diphenyl-N,N'-bis[4-(trimethylsilyl)phenyl]-
(9CI) (CA INDEX NAME)



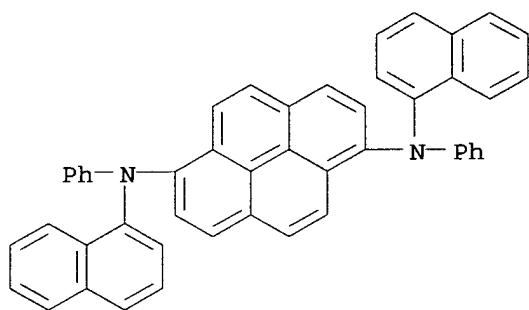
RN 722498-86-4 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-di-2-naphthalenyl-N,N'-diphenyl- (9CI) (CA
INDEX NAME)



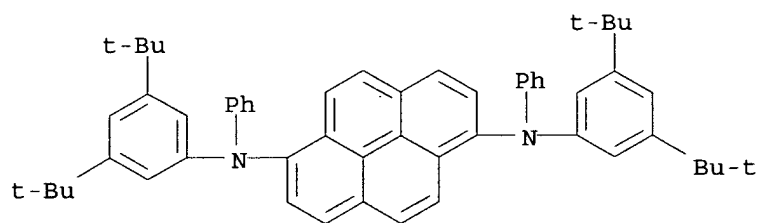
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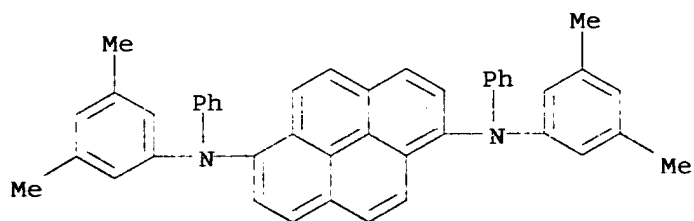
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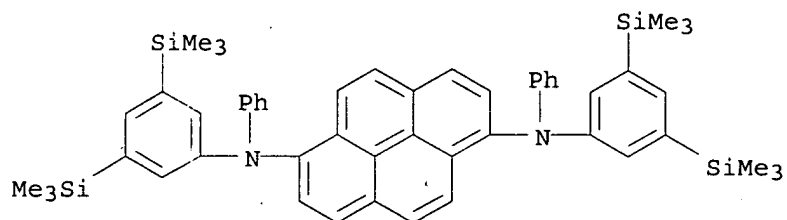
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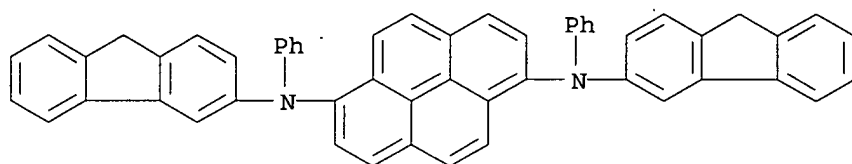
RN 722498-91-1 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis[3,5-bis(trimethylsilyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



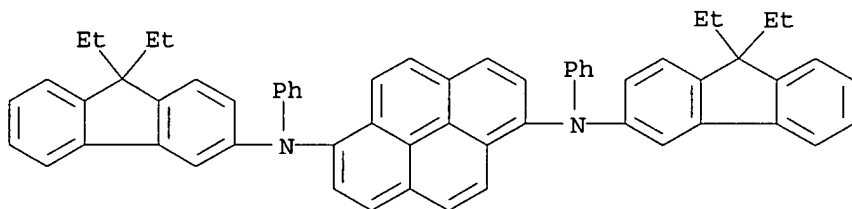
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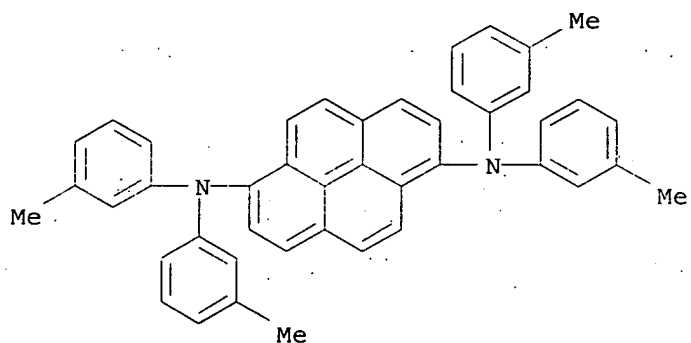
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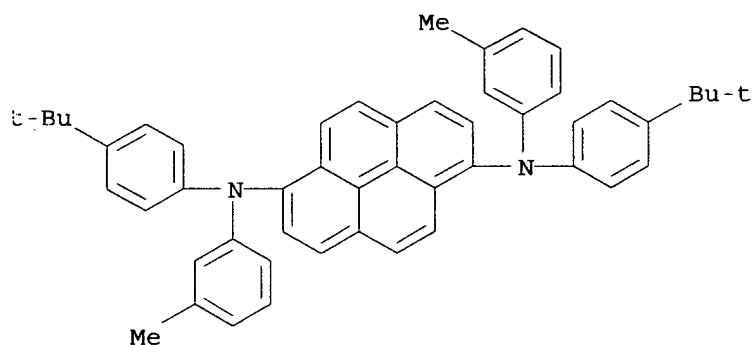
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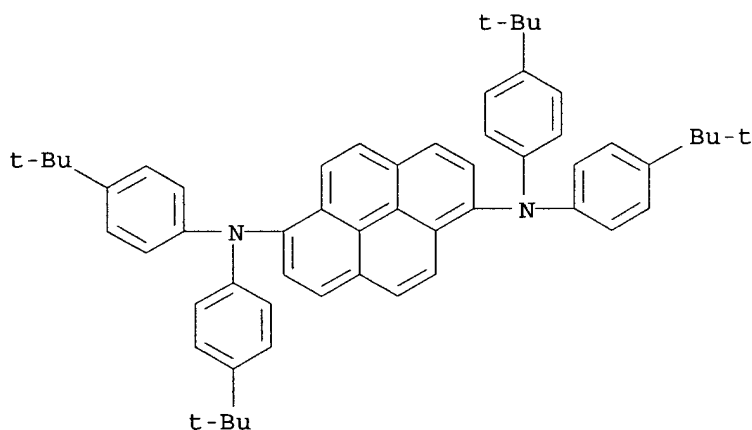
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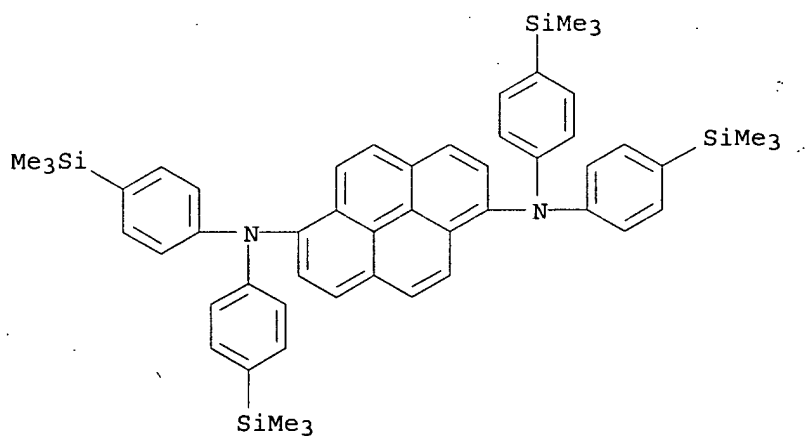
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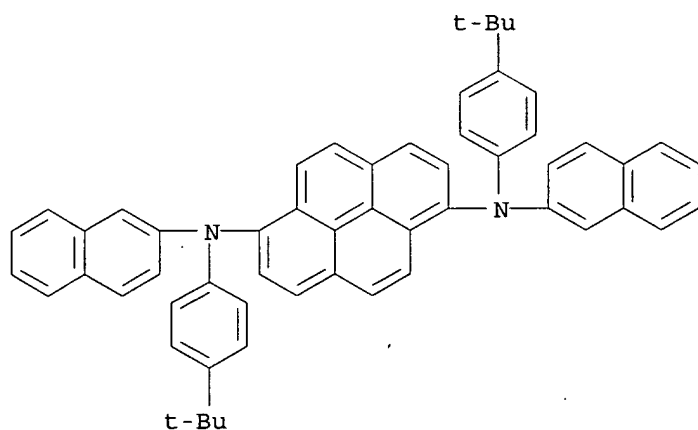
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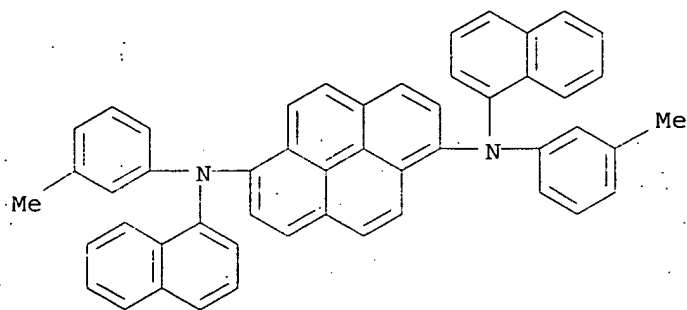
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RN 722499-01-6 HCAPLUS

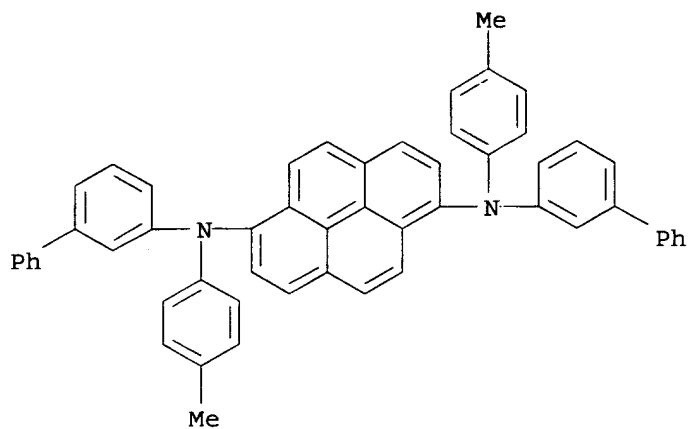
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RN 722499-04-9 HCAPLUS

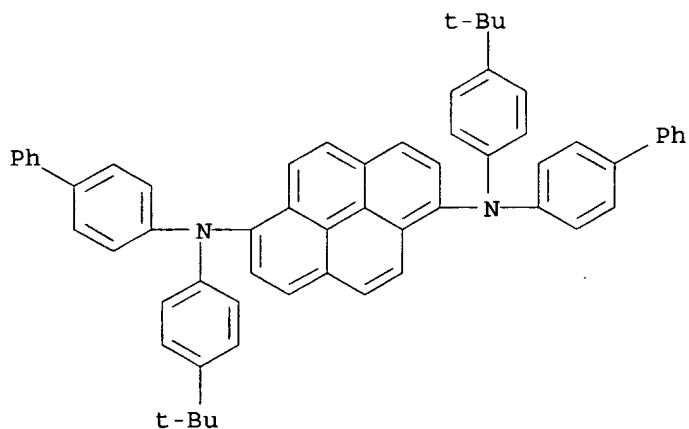
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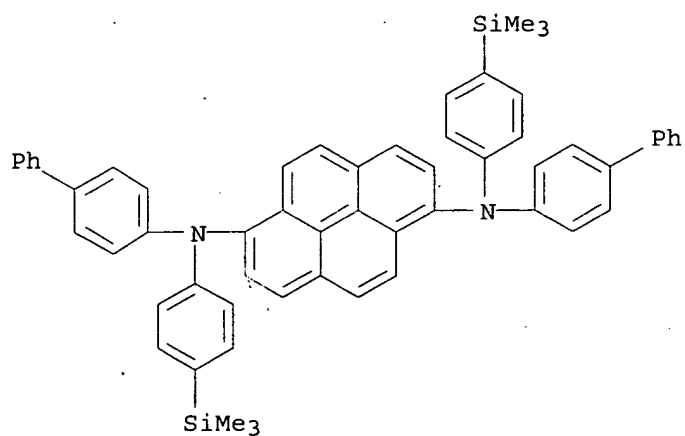
RN 722499-05-0 HCAPLUS

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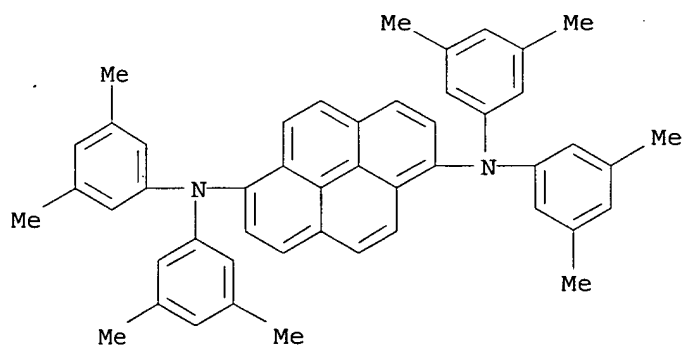
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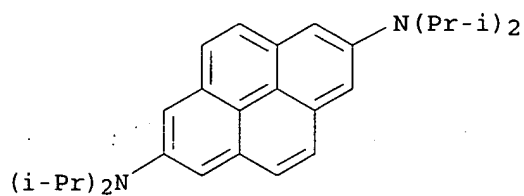
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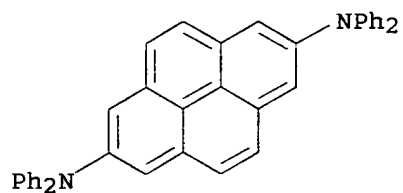
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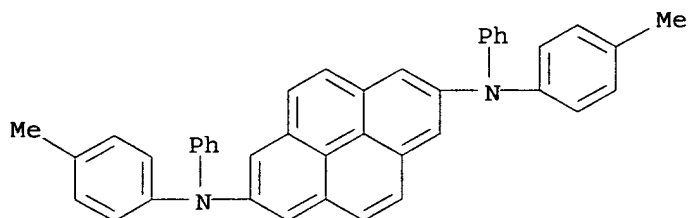


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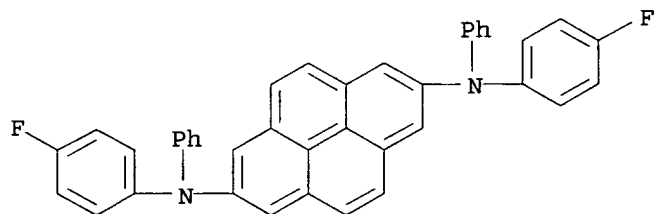
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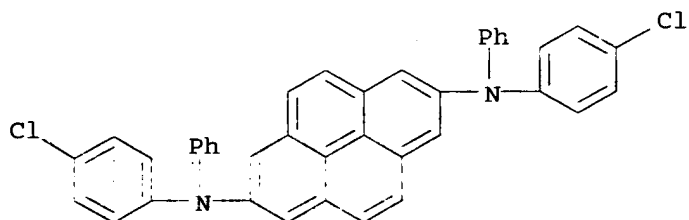
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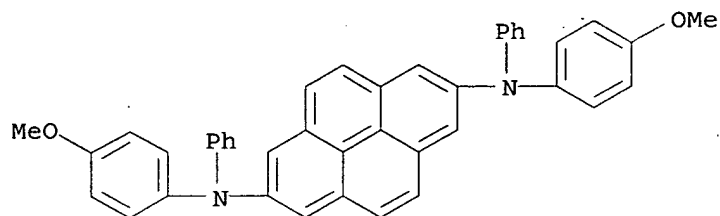
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 INDEX NAME)



RN 722499-17-4 HCAPLUS
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 INDEX NAME)

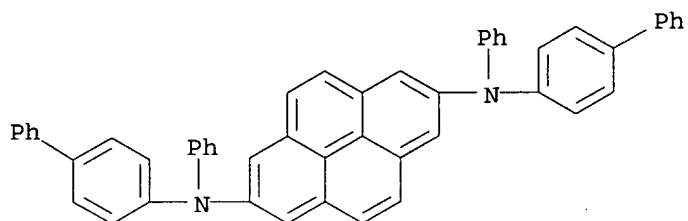


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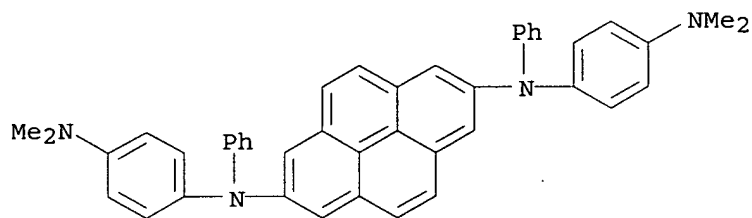
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(CA INDEX NAME)



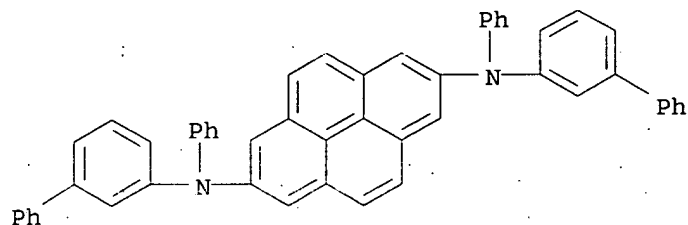
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CN 2,7-Pyrenediamine, N,N'-bis[4-(dimethylamino)phenyl]-N,N'-diphenyl-
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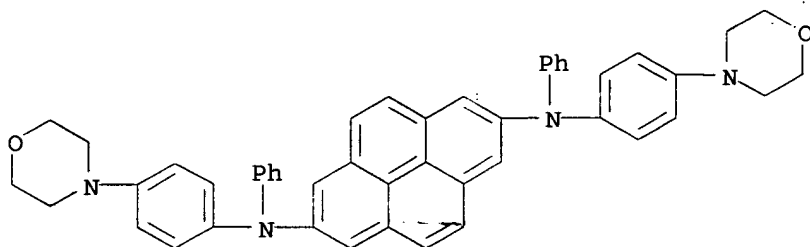
RN 722499-21-0 HCAPLUS

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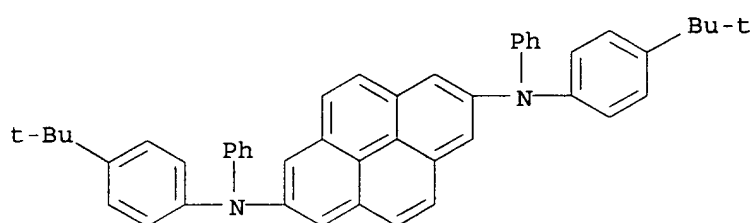
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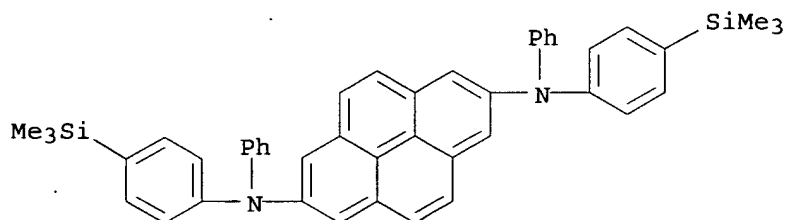
RN 722499-23-2 HCAPLUS

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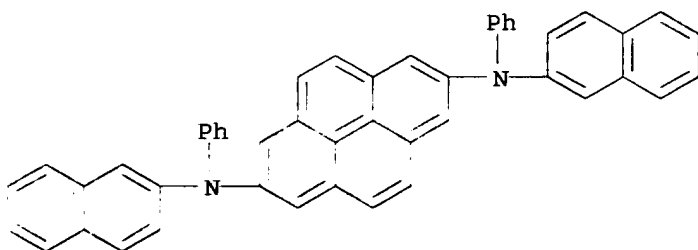
RN 722499-24-3 HCAPLUS

CN 2,7-Pyrenediamine, N,N'-diphenyl-N,N'-bis[4-(trimethylsilyl)phenyl]-
(9CI) (CA INDEX NAME)



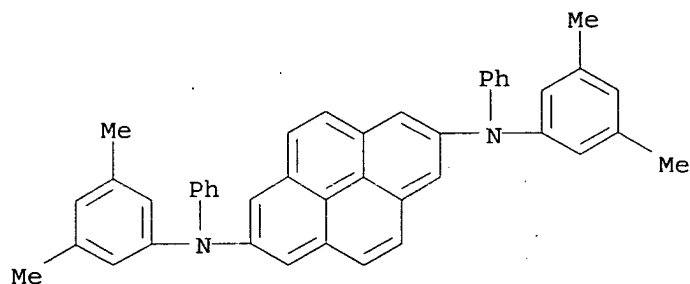
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INDEX NAME)



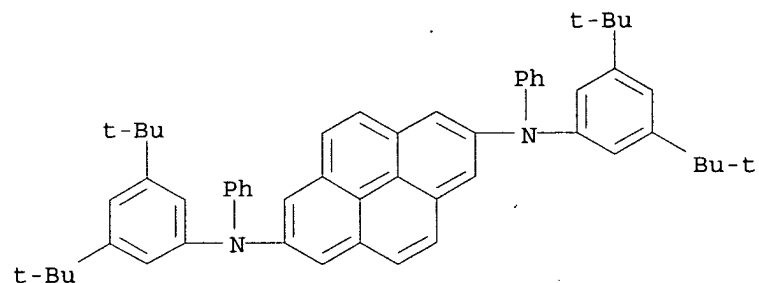
RN 722499-30-1 HCAPLUS

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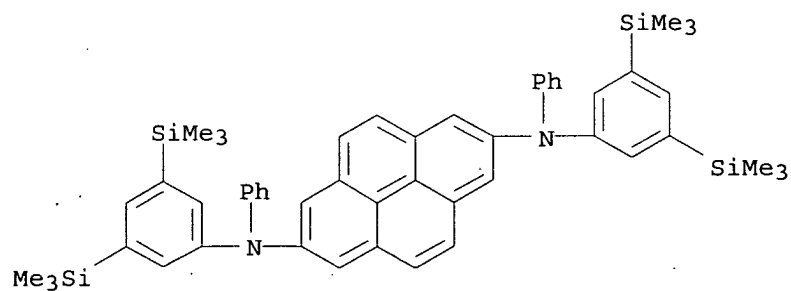
RN 722499-31-2 HCAPLUS

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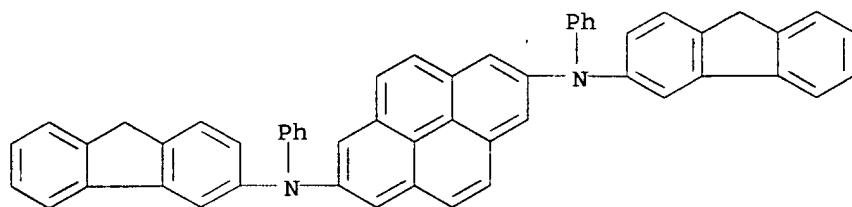
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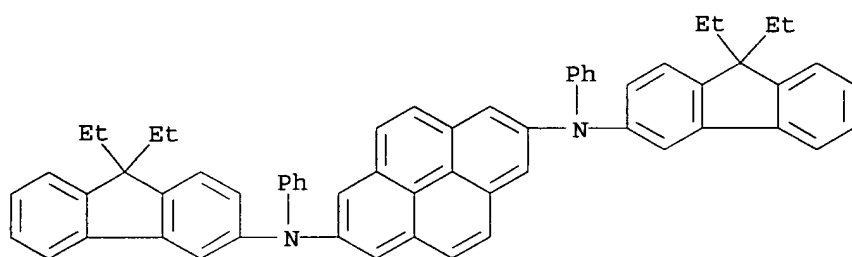
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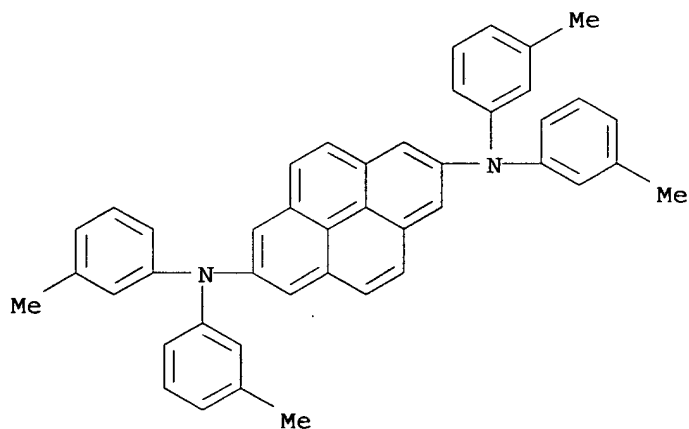
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(9CI) (CA INDEX NAME)



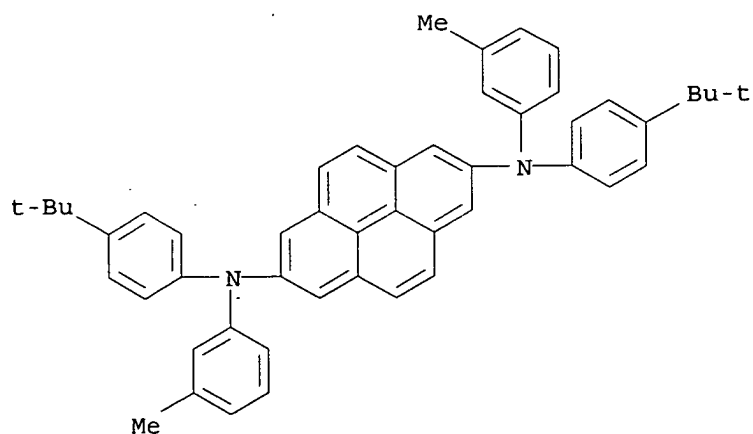
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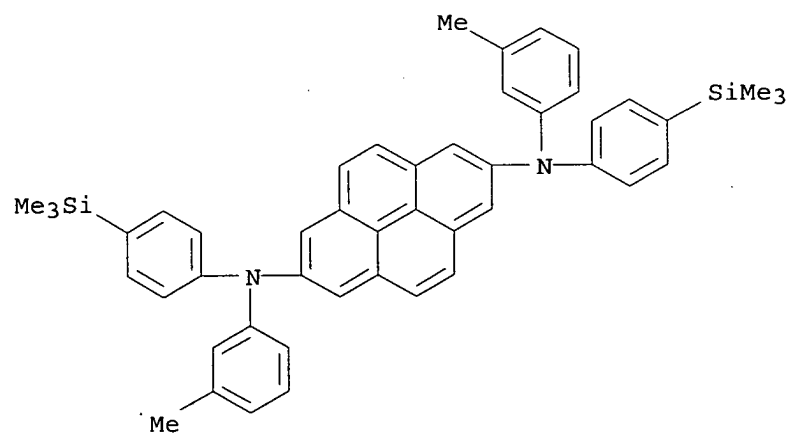
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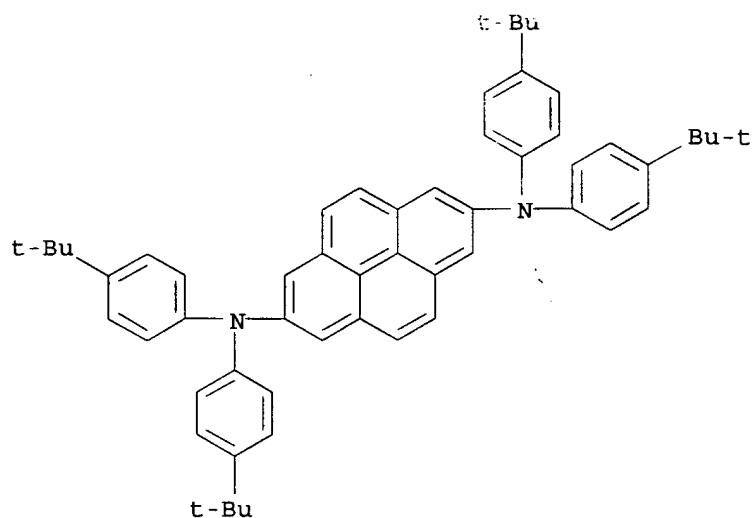
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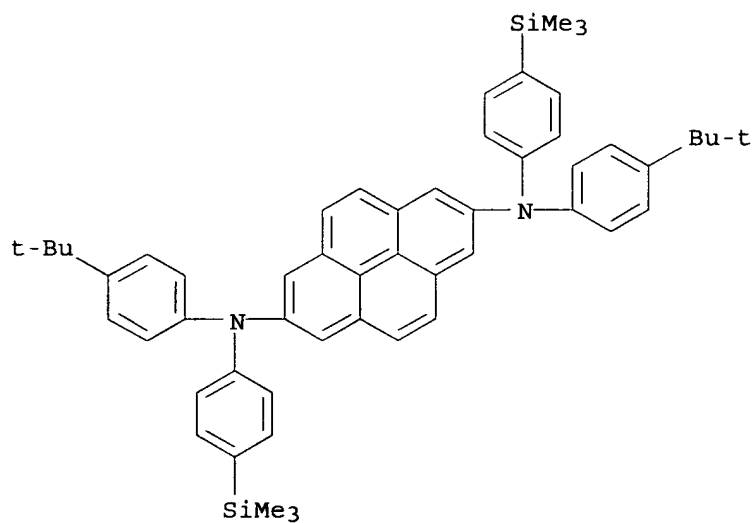
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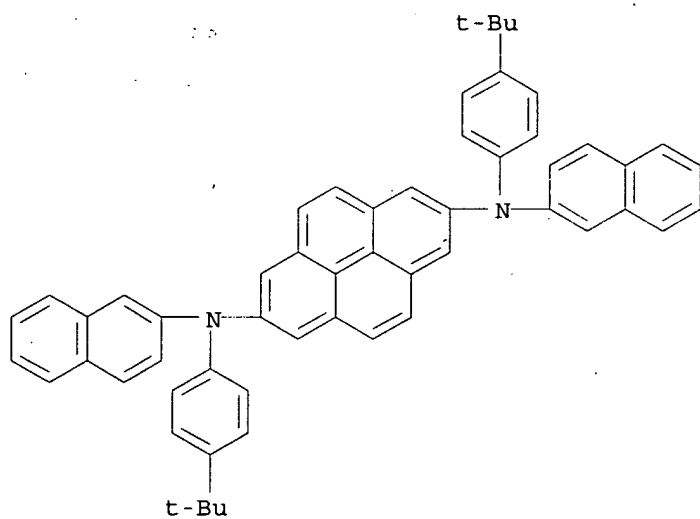
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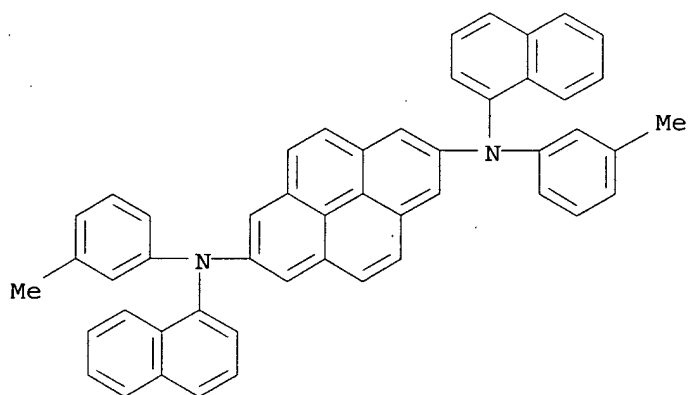
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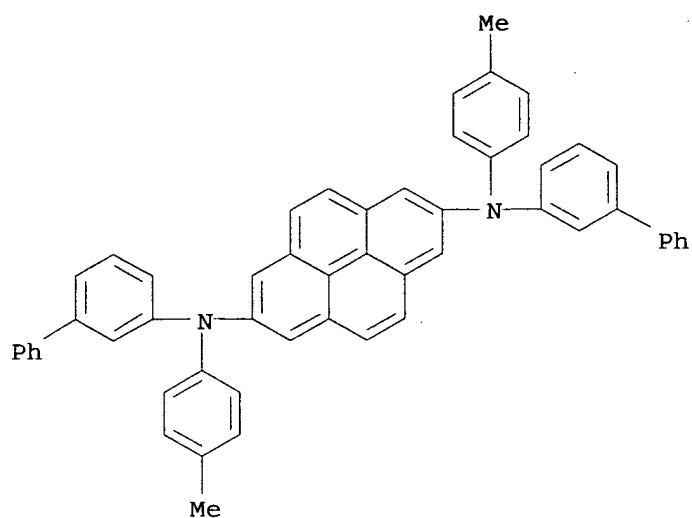
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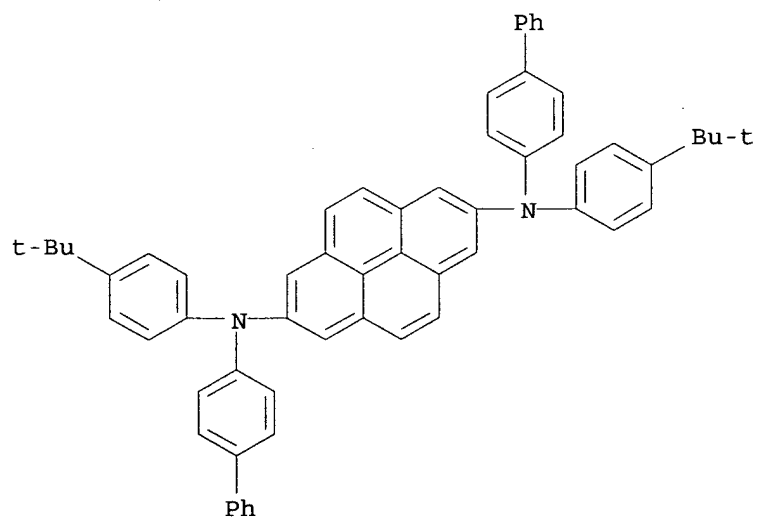
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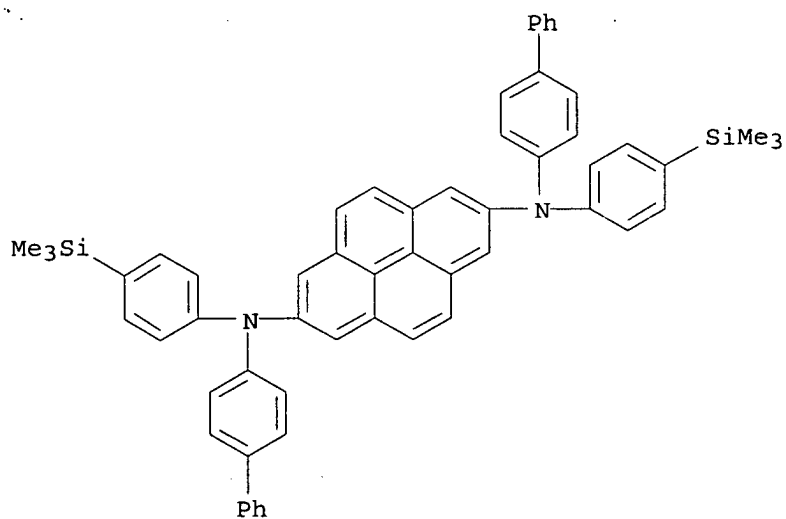
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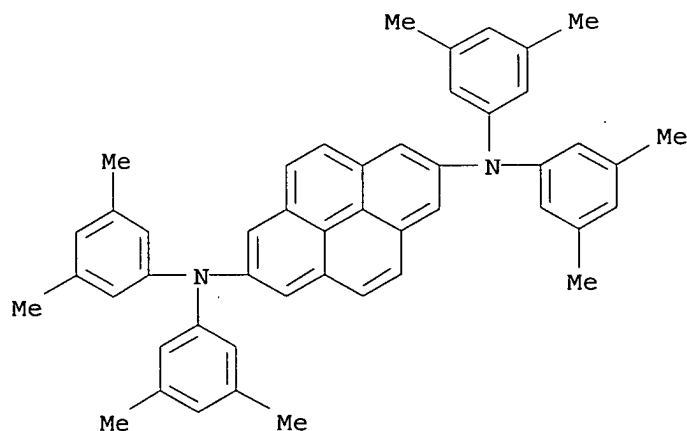
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RN 722499-49-2 HCAPLUS

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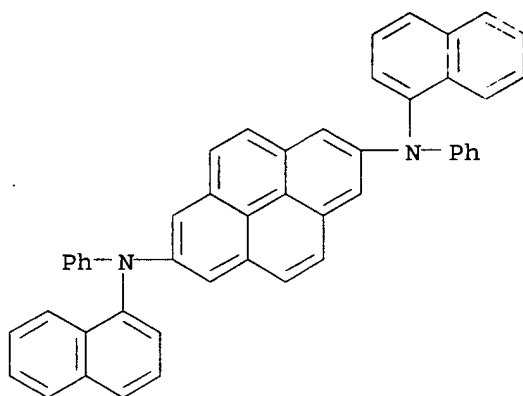


IT 722498-96-6

(blue-emitting dopant; organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)

RN 722498-96-6 HCAPLUS

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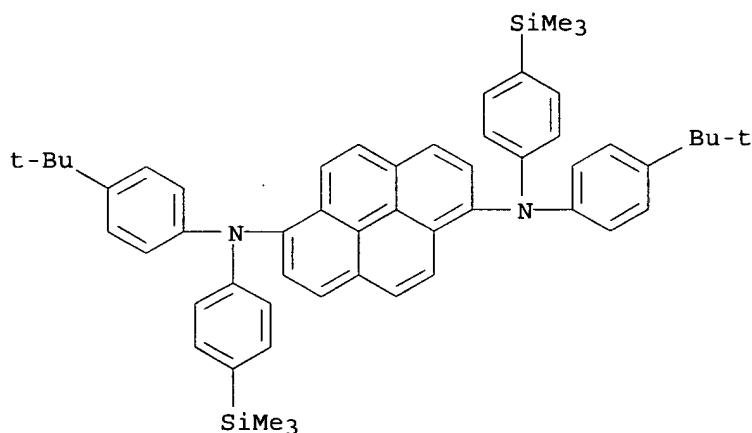


IT 722498-52-4P

(blue-emitting dopant; organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)

RN 722498-52-4 HCAPLUS

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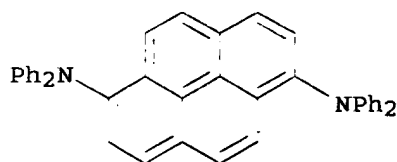


IT 76656-53-6P

(organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)

RN 76656-53-6 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related

Properties)
 Section cross-reference(s): 22, 25, 76
 ST org electroluminescent device **blue** dopant pyrene amine deriv
 OLED
 IT Dopants
 (blue-emitting; organic electroluminescent devices employing
 blue-emitting dopants based on amine derivs. of pyrene)
 IT Luminescent substances
 (electroluminescent, **blue**-emitting; organic
 electroluminescent devices employing **blue**-emitting
 dopants based on amine derivs. of pyrene)
 IT Electroluminescent devices
 (organic electroluminescent devices employing **blue**-emitting
 dopants based on amine derivs. of pyrene)
 IT 76656-51-4 143141-30-4 163969-53-7
 663954-33-4 668019-96-3 722498-76-2
 722498-77-3 722498-78-4 722498-79-5
 722498-80-8 722498-81-9 722498-82-0
 722498-83-1 722498-84-2 722498-85-3
 722498-86-4 722498-87-5 722498-88-6
 722498-89-7 722498-90-0 722498-91-1
 722498-92-2 722498-93-3 722498-94-4
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 722499-48-1 722499-49-2 722499-50-5 722499-51-6
 722499-52-7 722499-53-8 722499-54-9
 (blue-emitting dopant; organic electroluminescent devices
 employing **blue**-emitting dopants based on amine derivs. of
 pyrene)
 IT 722498-96-6
 (blue-emitting dopant; organic electroluminescent devices
 employing **blue**-emitting dopants based on amine derivs. of
 pyrene)
 IT 722498-52-4P 722498-53-5P 722498-55-7P
 (blue-emitting dopant; organic electroluminescent devices
 employing **blue**-emitting dopants based on amine derivs. of
 pyrene)
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 653599-45-2 653599-46-3 722498-56-8 722498-57-9 722498-58-0
 722498-59-1 722498-60-4 722498-61-5 722498-62-6 722498-64-8
 722498-65-9 722498-66-0 722498-67-1 722498-68-2 722498-69-3
 722498-70-6 722498-71-7 722498-72-8 722498-73-9 722498-74-0
 722498-75-1
 (light-emitting host; organic electroluminescent devices employing
blue-emitting dopants based on amine derivs. of pyrene)
 IT 722498-63-7

- (light-emitting host; organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)
- IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 123847-85-8, NFB
(organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)
- IT 75-77-4, Chlorotrimethylsilane, reactions 106-37-6,
1,4-Dibromobenzene 109-04-6, 2-Bromopyridine 122-39-4,
Diphenylamine, reactions 129-00-0, Pyrene, reactions 769-92-6,
4-tert-Butylphenylamine 6631-37-4
(organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)
- IT 6999-03-7P, (4-Bromophenyl)trimethylsilane 27973-29-1P,
1,6-Dibromopyrene 722498-51-3P 722498-54-6P
(organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)
- IT 38303-35-4P, 1,8-Dibromopyrene
(organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)
- IT 76656-53-6P
(organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)

L45 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:198497 HCAPLUS

DOCUMENT NUMBER: 140:225545

TITLE: Phenylanthracenes for blue-emitting organic electroluminescent devices having high luminescent intensity and efficiency

INVENTOR(S): Kawamura, Hisayuki

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004075580	A	20040311	JP 2002-235538	20020813
PRIORITY APPLN. INFO.:			JP 2002-235538	20020813

OTHER SOURCE(S): MARPAT 140:225545

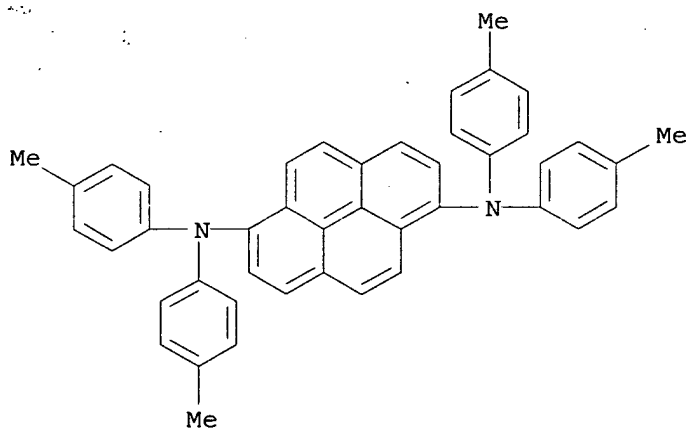
ED Entered STN: 11 Mar 2004

AB The phenylanthracenes are A1LA2 (I) (A1, A2 = phenylanthryl, diphenylanthryl; L = C_≥8 polycyclic alicyclic group; A1 and A2 link via different atoms of L). Organic electroluminescent devices have emitter or hole-transporting layers containing I.

IT 663954-33-4
(dopants; polycyclic alicyclic compds. bearing phenylanthracene groups as emitters or hole transporting materials for blue-emitting organic electroluminescent devices)

RN 663954-33-4 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



- IC ICM C07C013-615
ICS C09K011-06; H05B033-14; H05B033-22
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
- ST phenylanthracene **blue emitting** org
electroluminescent device; **blue emitting**
electroluminescent adamantane phenylanthraene; hole transport
phenylanthracene org electroluminescent device
- IT Amines, uses
(aromatic, dopants; polycyclic alicyclic compds. bearing
phenylanthracene groups as emitters or hole transporting materials
for **blue-emitting** organic electroluminescent
devices)
- IT Electroluminescent devices
(**blue-emitting**; polycyclic alicyclic compds.
bearing phenylanthracene groups as emitters or hole transporting
materials for **blue-emitting** organic
electroluminescent devices)
- IT Luminescent substances
(electroluminescent; polycyclic alicyclic compds. bearing
phenylanthracene groups as emitters or hole transporting materials
for **blue-emitting** organic electroluminescent
devices)
- IT Hole transport
(polycyclic alicyclic compds. bearing phenylanthracene groups as
emitters or hole transporting materials for **blue-**
emitting organic electroluminescent devices)
- IT 154853-83-5, 663954-33-4
(dopants; polycyclic alicyclic compds. bearing phenylanthracene
groups as emitters or hole transporting materials for **blue**
-emitting organic electroluminescent devices)
- IT 665054-19-3P 665054-20-6P
(manufacture of polycyclic alicyclic compds. bearing phenylanthracene
groups as emitters or hole transporting materials for **blue**
-emitting organic electroluminescent devices)
- IT 23674-20-6P 625854-02-6P
(manufacture of polycyclic alicyclic compds. bearing phenylanthracene
groups as emitters or hole transporting materials for **blue**
-emitting organic electroluminescent devices)
- IT 98-80-6, Benzenboronic acid 602-55-1, 9-Phenylanthracene
876-53-9, 1,3-Dibromoadamantane 1564-64-3, 9-Bromoanthracene

5467-74-3, 4-Bromophenylboronic acid
 (manufacture of polycyclic alicyclic compds. bearing phenylanthracene
 groups as emitters or hole transporting materials for blue
 -emitting organic electroluminescent devices)

L45 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:182957 HCAPLUS

DOCUMENT NUMBER: 140:243296

TITLE: Organic electroluminescent devices and organic
 luminescent medium

INVENTOR(S): Matsuura, Masahide; Funahashi, Masakazu; Fukuoka,
 Kenichi; Hosokawa, Chishio

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 77 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004018588	A1	20040304	WO 2003-JP8463	20030703
W: CN, JP, KR				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1541657	A1	20050615	EP 2003-738656	20030703
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
CN 1668719	A	20050914	CN 2003-817301	20030703
CN 1842234	A	20061004	CN 2006-10067808	20030703
US 2005064233	A1	20050324	US 2003-617397	20030711
US 2006033421	A1	20060216	US 2005-207933	20050822
PRIORITY APPLN. INFO.:			JP 2002-211308	A 20020719
			CN 2003-817301	A3 20030703
			WO 2003-JP8463	W 20030703
			US 2003-617397	A3 20030711

OTHER SOURCE(S): MARPAT 140:243296

ED Entered STN: 05 Mar 2004

AB An organic electroluminescent device comprises a pair of electrodes and
 an organic luminescent medium layer which is placed between the
 electrodes and contains (A) a specific arylamine and (B) at least one
 compound selected from among specific anthracene derivs., spiro fluorene
 derivs., fused-ring compds., and metal complexes; and an organic
 luminescent medium containing the components (A) and (B). The organic
 electroluminescent device exhibits high color purity, excellent heat
 resistance and a long lifetime and emits blue to
 yellow light at high efficiency, and the organic luminescent medium is
 suitable for use in such devices.

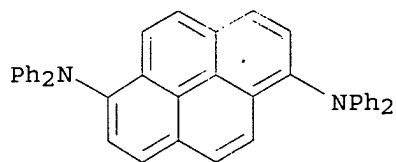
IT 76656-53-6 668019-96-3 668020-20-0

668020-26-6 668020-53-9 668020-61-9

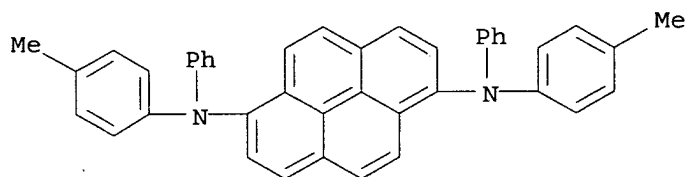
(organic electroluminescent devices and organic luminescent medium)

RN 76656-53-6 HCAPLUS

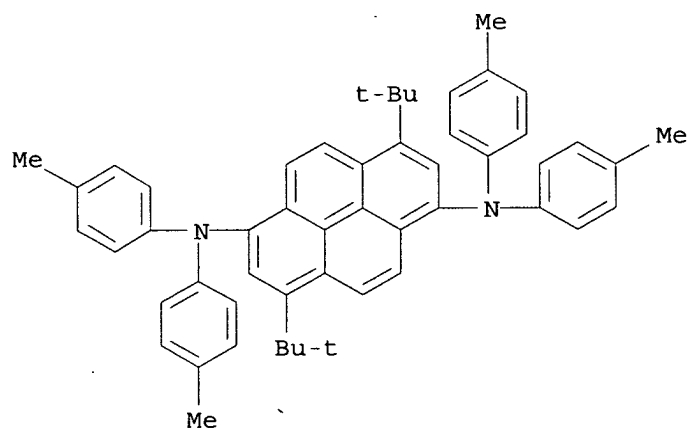
CN 1,6-Pyrenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



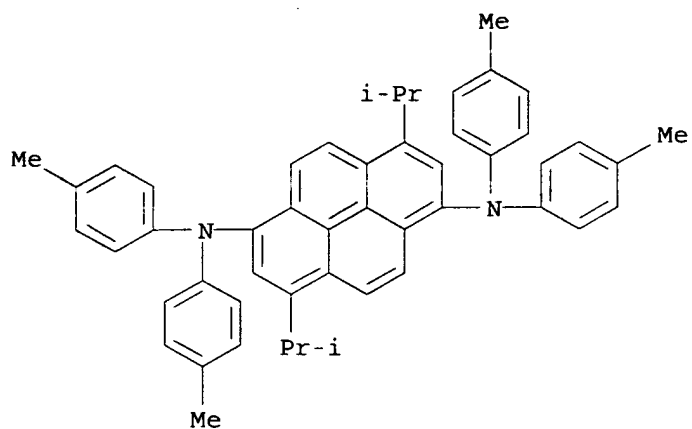
RN 668019-96-3 HCAPLUS
 CN 1,6-Pyrenediamine, N,N'-bis(4-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



RN 668020-20-0 HCAPLUS
 CN 1,6-Pyrenediamine, 3,8-bis(1,1-dimethylethyl)-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

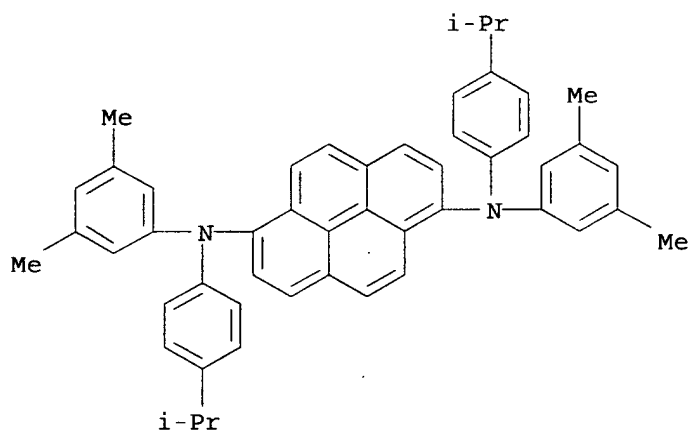


RN 668020-26-6 HCAPLUS
 CN 1,6-Pyrenediamine, 3,8-bis(1-methylethyl)-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



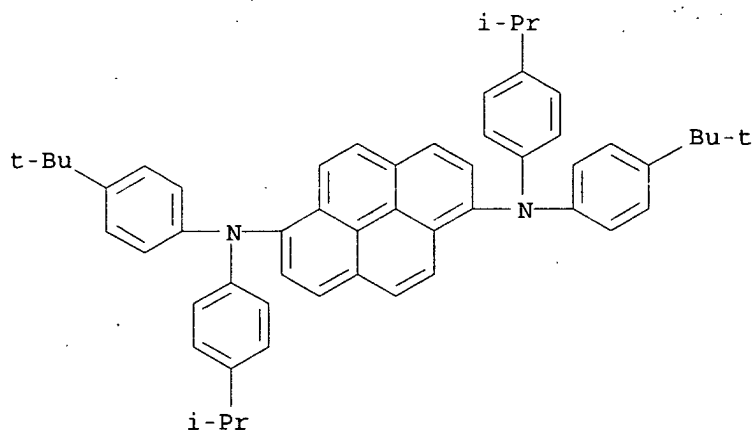
RN 668020-53-9 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis(3,5-dimethylphenyl)-N,N'-bis[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 668020-61-9 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-bis[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14; H05B033-22
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 74
IT **76656-53-6** 122648-99-1 131625-67-7 171408-93-8
172285-79-9 172285-83-5 220721-68-6 244281-01-4 279672-22-9
349666-25-7 400606-81-7 475461-15-5 668019-24-7 668019-64-5
668019-76-9 **668019-96-3** 668020-07-3 668020-14-2
668020-20-0 **668020-26-6** 668020-28-8 668020-34-6
668020-39-1 668020-46-0 **668020-53-9** **668020-61-9**
668020-67-5 668020-74-4 668020-81-3 668020-88-0
(organic electroluminescent devices and organic luminescent medium)
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L45 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:162657 HCAPLUS
DOCUMENT NUMBER: 140:225502
TITLE: Oligoarylene derivatives for organic electroluminescent devices
INVENTOR(S): Ikeda, Hidetsugu; Matsuura, Masahide; Kawamura, Hisayuki
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004016575	A1	20040226	WO 2003-JP10071	20030807
W: CN, KR, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
JP 2004075567	A	20040311	JP 2002-234833	20020812
EP 1533290	A1	20050525	EP 2003-788055	20030807
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				

CN 1675149 A 0050928 CN 2003-819058 20030807
 US 2006134456 A1 0060622 US 2005-522546 20050127
 PRIORITY APPLN..INFO.: JP 2002-234833 A 20020812

WO 2003-JP10071 W 20030807

OTHER SOURCE(S): MARPAT 140:225502

ED Entered STN: 29 Feb 2004

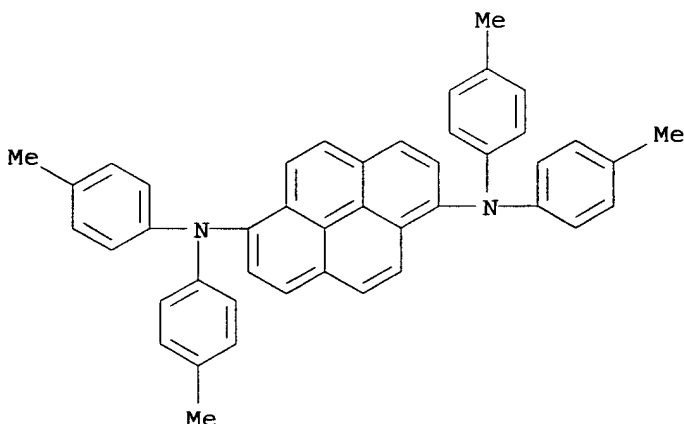
AB The invention relates to oligoarylene derivs. represented by Ar1-Ch-Ar2, Ch1-L-Ch2, Ar3-(L1)a-Ch3-(L2)b-Ar4, and Ar5-Ch4-(Ar7)n-L3-(Ar8)m-Ch5-Ar6(1) [Ch, Ch1 and Ch2 = C14-20 condensed aromatic ring; Ch3, Ch4 and Ch5 = C14-20 arylene group; Ar1-6 = aryl group containing 5-30 atoms; Ar7 and Ar8 = arylene group containing 5-30 atoms; L1-3 = connecting group; and a, b, n and m = 0 or 1]. The oligoarylene derivs. are suited for use as a host material of a blue electroluminescent material in an organic electroluminescent device.

IT 663954-33-4P

(oligoarylene derivs. for organic electroluminescent devices)

RN 663954-33-4 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM C07C015-62

ICS C09K011-06; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25

IT Electroluminescent devices

(blue-emitting; oligoarylene derivs. for organic electroluminescent devices)

IT 154853-83-5P 663954-28-7P 663954-29-8P 663954-30-1P

663954-32-3P 663954-33-4P

(oligoarylene derivs. for organic electroluminescent devices)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:549178 HCAPLUS

DOCUMENT NUMBER: 119:149178

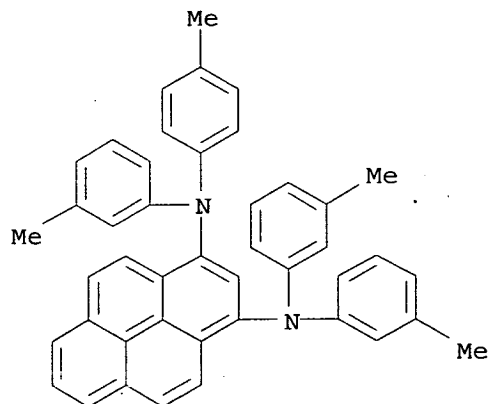
TITLE: Electroluminescent elements

INVENTOR(S): Onuma, Teruyuki; Shimada, Tomoyuki; Ota, Masabumi;

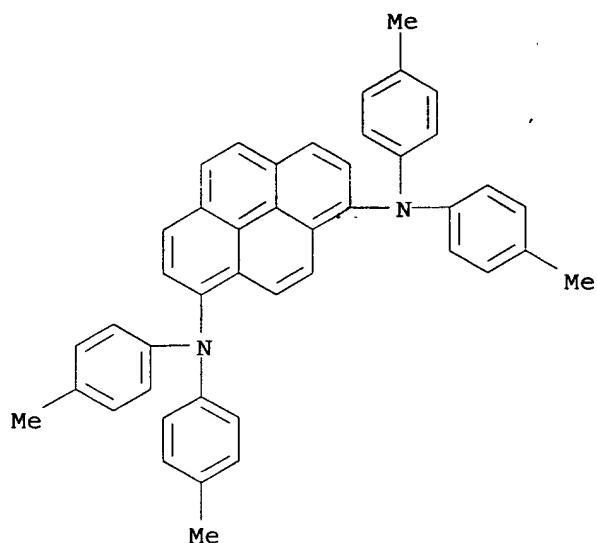
PATENT ASSIGNEE(S): Kawamura, Fumio; Sakon, Hirota; Takahashi, Toshihiko
 SOURCE: Ricoh Co., Ltd., Japan
 Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04175395	A	19920623	JP 1990-305405	19901110
US 5153073	A	19921006	US 1991-723375	19910628
PRIORITY APPLN. INFO.:			JP 1990-179355	A1 19900706
			JP 1990-305405	A 19901110

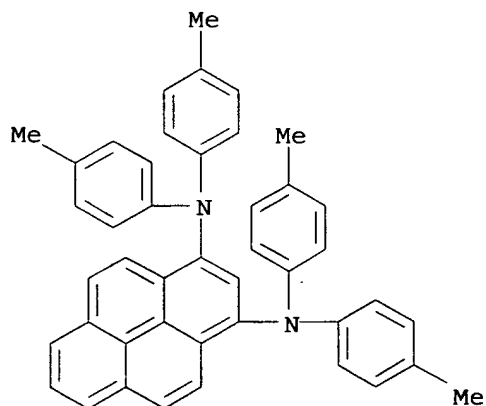
OTHER SOURCE(S): MARPAT 119:149178
 ED Entered STN: 02 Oct 1993
 AB The element, suited for use in large-area displays, comprises a cathode and an anode sandwiching ≥ 1 organic phosphor layer containing $A_3(NA_1A_2)_n$ [$A_1, 2 =$ (substituted) alkyl, (substituted) aryl; $A_3 =$ (substituted) vinyl; $n = 1, 2$]. The element has a long-life stability with a low threshold voltage.
 IT 146762-79-0
 (electroluminescent phosphors from, **blue emitting**)
 RN 146762-79-0 HCAPLUS
 CN 1,3-Pyrenediamine, N1,N3,N3-tris(3-methylphenyl)-N1-(4-methylphenyl)-(9CI) (CA INDEX NAME)



IT 142827-48-3
 (electroluminescent phosphors from, green emitting)
 RN 142827-48-3 HCAPLUS
 CN 1,8-Pyrenediamine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



IT 142641-61-0
 (electroluminescent phosphors from, greenish blue
 emitting)
 RN 142641-61-0 HCAPLUS
 CN 1,3-Pyrenediamine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA
 INDEX NAME)



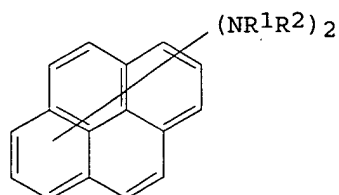
IC ICM C09K011-00
 ICS C09K011-06; H05B033-14
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)
 Section cross-reference(s): 74
 ST electroluminescent org phosphor blue green emitting
 IT Phosphors
 (blue-green-violet emitting, for
 electroluminescent devices)
 IT 131625-67-7 139905-81-0 146762-79-0
 (electroluminescent phosphors from, blue emitting
)
 IT 139905-74-1 142827-48-3

(electroluminescent phosphors from, green emitting)
 IT 142641-61-0
 (electroluminescent phosphors from, greenish blue
 emitting)

L45 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1992:560887 HCAPLUS
 DOCUMENT NUMBER: 117:160887
 TITLE: Electrophotographic photoreceptors using
 diaminopyrene compound charge-transporting agent
 INVENTOR(S): Shimada, Tomoyuki; Sasaki, Masaomi; Ariga, Tamotsu
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04118658	A	19920420	JP 1990-175561	19900702
JP 3030441	B2	20000410		
PRIORITY APPLN. INFO.:			JP 1990-140887	A1 19900530

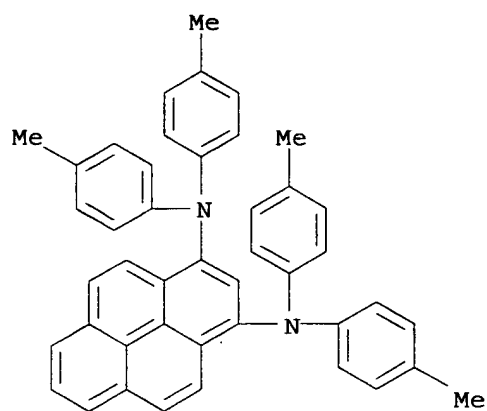
ED Entered STN: 17 Oct 1992
 GI



AB The photoreceptors comprise a conductive support with a coating of a photosensitive layer containing ≥ 1 diaminopyrene compound I [R1-2 = (substituted) alkyl or aryl, except 1,6-diaminopyrene]. The photoreceptors show good photosensitivity, thermal resistance, and mech. strength. Thus, an Al vapor-deposited polyester film was coated with a charge-generating layer containing Diane Blue and a charge-transporting layer containing N,N,N',N'-tetrakis(4-methylphenyl)-1,3-diaminopyrene to give a photoreceptor.

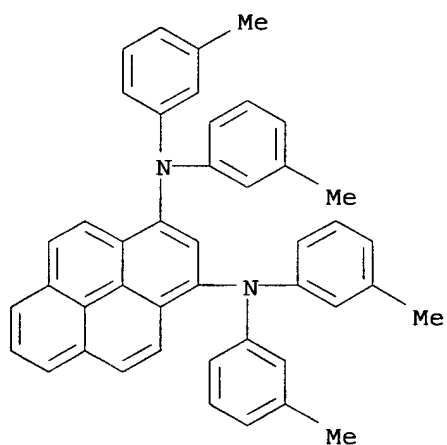
IT 142641-61-0 142641-62-1 143141-27-9
 143141-28-0 143141-29-1 143141-30-4
 143141-31-5 143141-32-6

(charge-transporting agent, electrophotog. photoreceptor using)
 RN 142641-61-0 HCAPLUS
 CN 1,3-Pyrenediamine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA
 INDEX NAME)



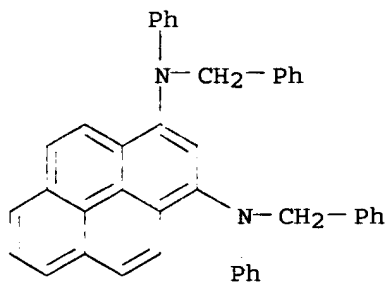
RN 142641-62-1 HCAPLUS

CN 1,3-Pyrenediimine, N,N,N',N'-tetrakis(3-methylphenyl)- (9CI) (CA INDEX NAME)



RN 143141-27-9 HCAPLUS

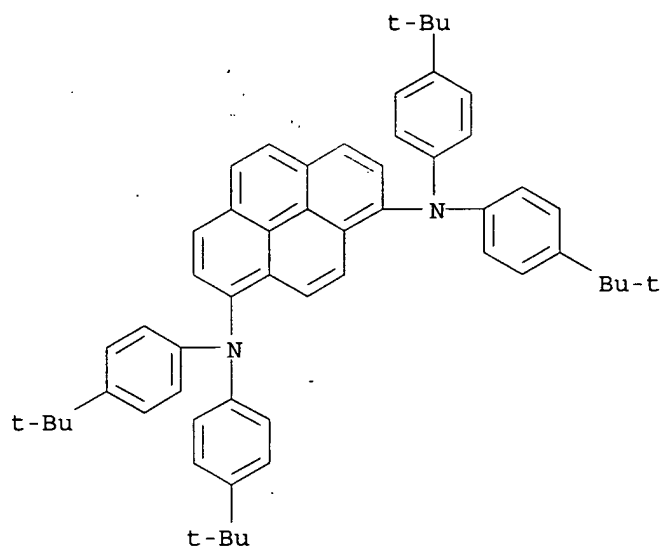
CN 1,3-Pyrenediimine, N,N'-diphenyl-N,N'-bis(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 143141-28-0 HCAPLUS

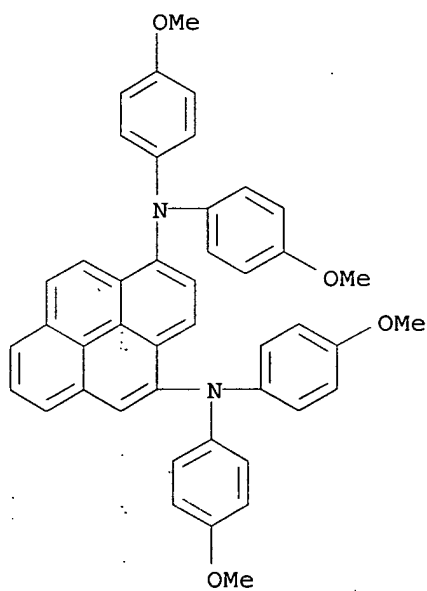
CN 1,8-Pyrenediimine, N,N,N',N'-tetrakis[4-(1,1-dimethylethyl)phenyl]-

(9CI) (CA INDEX NAME)



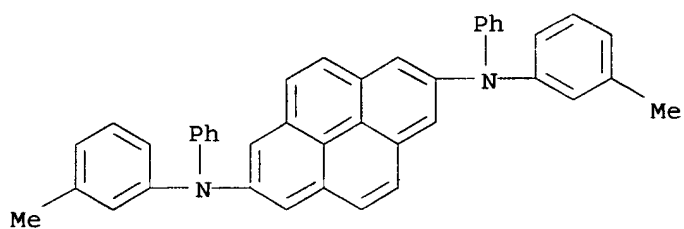
RN 143141-29-1 HCAPLUS

CN 1,4-Pyrenediimine, N,N,N',N'-tetrakis(4-tert-butylphenyl)- (9CI) (CA INDEX NAME)



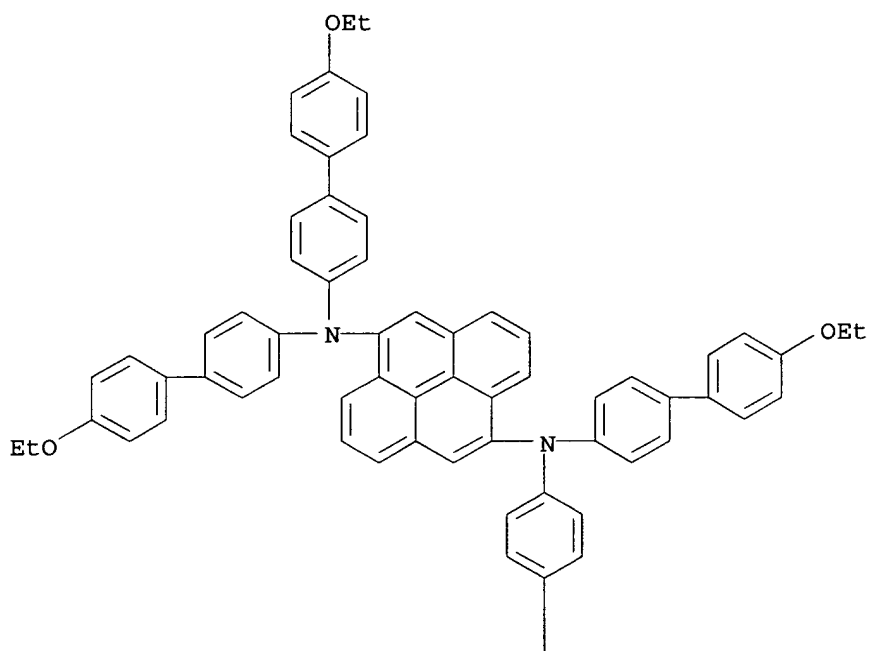
RN 143141-30-4 HCAPLUS

CN 2,7-Pyrenediimine, N,N'-bis(3-methoxyphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

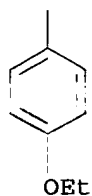


RN 143141-31-5 HCAPLUS
 CN 4,9-Pyrenediimine, N,N,N',N'-tetrakis(4'-ethoxy[1,1'-biphenyl]-4-yl)-
 (9CI) (CA INDEX NAME)

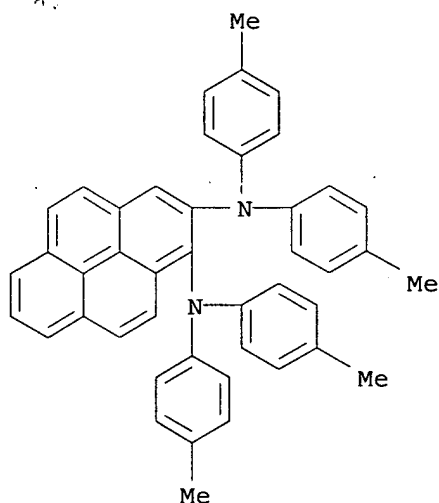
PAGE 1-A



PAGE 2-A



RN 143141-32-6 HCAPLUS
 CN 1,2-Pyrenediimine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA
 INDEX NAME)

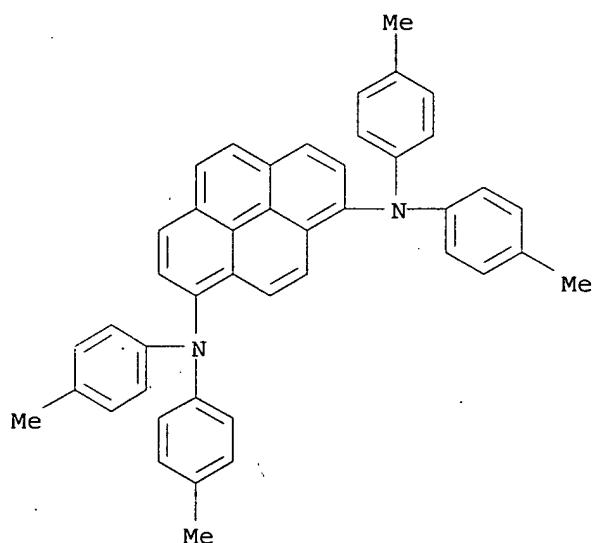


IT 142827-48-3P

(preparation of, as charge-transporting agent, electrophotog. photoreceptor using)

RN 142827-48-3 HCAPLUS

CN 1,8-Pyrenediimine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 142641-61-0 142641-62-1 143141-27-9

143141-28-0 143141-29-1 143141-30-4

143141-31-5 143141-32-6

(charge-transporting agent, electrophotog. photoreceptor using)

IT 142827-48-3P

(preparation of, as charge-transporting agent, electrophotog. photoreceptor using)

L45 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1968:472174 HCAPLUS
 DOCUMENT NUMBER: 69:72174
 TITLE: Soluble electroluminescent materials
 INVENTOR(S): Zweig, Arnold
 PATENT ASSIGNEE(S): American Cyanamid Co.
 SOURCE: Fr., 7 pp.
 CODEN: FRXXAK
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1499026		19671020	FR 1966-83527	19661114
PRIORITY APPLN. INFO.:			US	19651217

ED Entered STN: 12 May 1984

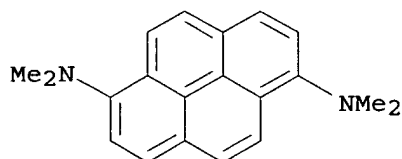
AB Various polycyclic dimethylamino compds. of the formula $X[NMe_2]_n$, where $n = 1-4$ and X is a condensed aromatic ring system containing 2-10 rings, were prepared from the corresponding amine compds. by reaction with MeI and $CaCO_3$ in refluxing MeOH/H₂O mixts. The compds. [(2-10) + 10-3M] were dissolved in nonprotodnating solvents, e.g. Me₂SO, tetrahydrofuran, HCONMe₂, etc., containing electrolyte, e.g. tetrabutylammonium perchlorate (0.1M), in an electrolytic cell. On application of an a.c. of ≥ 60 cycles/sec. at 5-10 v., the materials **emit** a **blue** fluorescence. Compds. exhibiting this fluorescence include 2,6-bis(dimethylamino)- and 2,7-bis(dimethylamino)naphthalene and 3,8-bis(dimethylamino)pyrene. The new compds. are more stable to oxidation than previously known compds. and may be used for battery depolarization.

IT 10075-93-1

(phosphors, for electroluminescence in solution)

RN 10075-93-1 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetramethyl- (8CI, 9CI) (CA INDEX NAME)



IC C09K

CC 71 (Electric Phenomena)

IT 10075-69-1 10075-70-4 10075-71-5 10075-93-1
 (phosphors, for electroluminescence in solution)

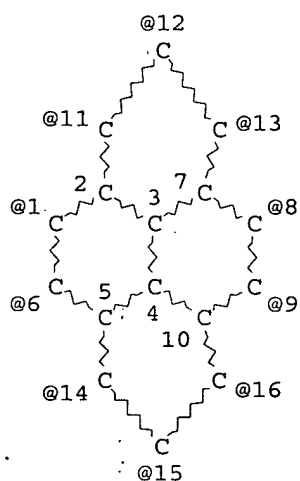
=> d que 148

L2 131 SEA FILE=REGISTRY ABB=ON PLU=ON (106-37-6/BI OR 109-04-6/BI OR 122-39-4/BI OR 123847-85-8/BI OR 129-00-0/BI OR 143141-30-4/BI OR 163969-53-7/BI OR 188-71-6/BI OR 2085-33-8/BI OR 26979-27-1/BI OR 27973-29-1/BI OR 331749-28-1/BI OR 38303-35-4/BI OR 400606-81-7/BI OR 43069-36-9/BI

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L5

STR



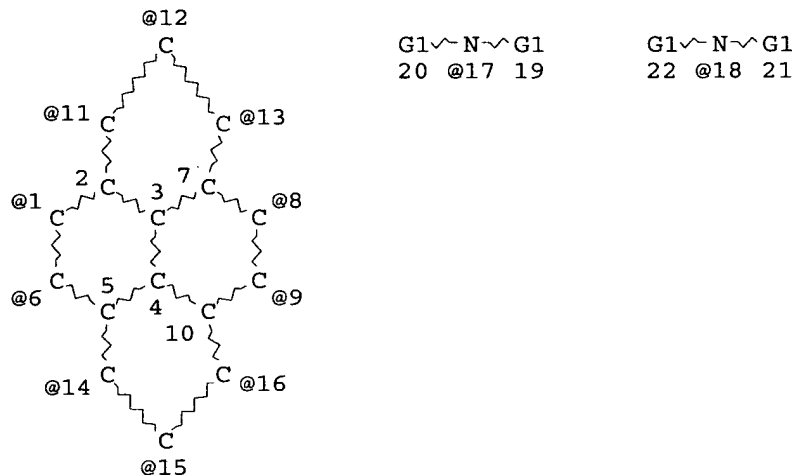
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VPA 17-1/6/14/15/16/9/8/13/12/11 U
 VPA 18-1/6/14/15/16/9/8/13/12/11 U
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 MLEVEL IS CLASS AT 11 12 13 14 15 16
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS UNLIMITED AT 11 12 13 14 15 16

GRAPH ATTRIBUTES:
 RSPEC I
 NUMBER OF NODES IS 18

STEREO ATTRIBUTES. NONE

L7 662 SEA FILE=REGISTRY SSS FUL L5
 L8 88 SEA FILE=REGISTRY ABB=ON PLU=ON L7 AND L2
 L9 23 SEA FILE=HCAPLUS ABB=ON PLU=ON L8
 L10 754 SEA FILE=HCAPLUS ABB=ON PLU=ON L7
 L11 731 SEA FILE=HCAPLUS ABB=ON PLU=ON L10 NOT L9
 L12 62874 SEA FILE=HCAPLUS ABB=ON PLU=ON "LUMINESCENT SUBSTANCES"+P
 FT,NT/CT
 L13 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L11 AND L12
 L14 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L9 AND L12
 L15 STR



VAR G1=AK/CB

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VPA 18-1/6/14/15/16/9/8/13/12/11 U

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

MLEVEL IS CLASS AT 11 12 13 14 15 16

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS UNLIMITED AT 11 12 13 14 15 16

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

L17 196 SEA FILE=REGISTRY SUB=L7 SSS FUL L15
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 (EMIT? OR EMISSION?) OR (EL OR E(W)L OR L(W)E(W)D OR OLED
)/IB,AB
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 L22 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L11 AND BLUE (2A) EMIT?
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 L28 2608 SEA FILE=HCAPLUS ABB=ON PLU=ON SEO, J?/AU

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 OR L32) AND L10
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 L37 6249335 SEA FILE=HCAPLUS ABB=ON PLU=ON OVERLAY? OR OVERLAID? OR
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 ,PY

=> d 148 1-15 ibib ed abs hitstr hitind

L48 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:217178 HCAPLUS
 DOCUMENT NUMBER: 140:261500
 TITLE: Pyrenes as dopants for green-emitting organic
 electroluminescent devices and displays
 INVENTOR(S): Toyama, Wataru; Sato, Hiroyuki; Matsuura, Azuma;
 Narisawa, Toshiaki
 PATENT ASSIGNEE(S): Fujitsu Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004083507	A	20040318	JP 2002-248378	20020828
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KR 2004019885	A	20040306	KR 2003-54519	20030807
			<--	
TW 252056	B	20060321	TW 2003-92121616	20030807
			<--	
US 2004053069	A1	20040318	US 2003-636580	20030808
			<--	
EP 1403354	A1	20040331	EP 2003-18120	20030808
			<--	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1487778	A	20040407	CN 2003-153303	20030808
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PRIORITY APPLN. INFO.: JP 2002-248378 A 20020828

OTHER SOURCE(S): MARPAT 140:261500

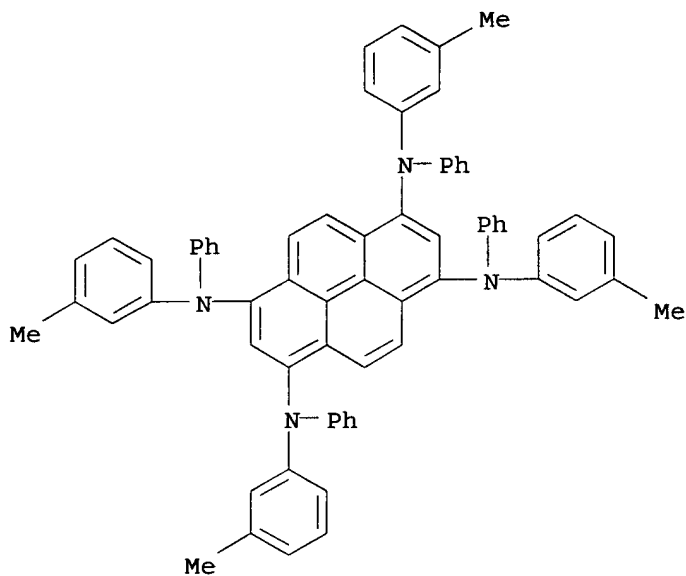
ED Entered STN: 18 Mar 2004

AB The pyrenes have substituents NR1R2 (R1, R2 = H, substituent) on
 position 1, 3, 6, and 8. The devices and displays have high green
 luminescence intensity and efficiency.

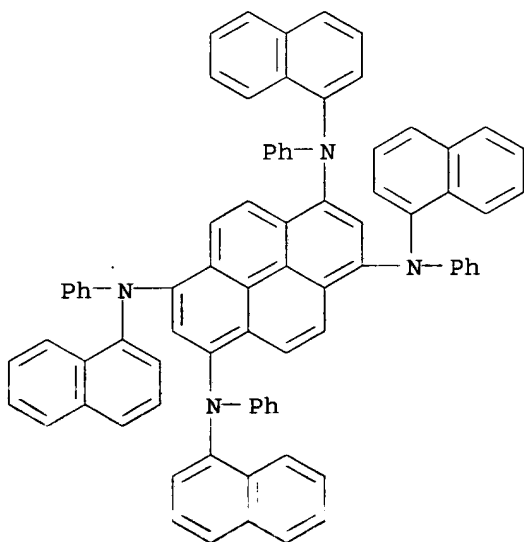
IT 671212-46-7P 671212-47-8P 671212-48-9P

(manufacture of 1,3,6,8-substituted pyrenes as dopants for
green-emitting organic electroluminescent devices and displays)

RN 671212-46-7 HCAPLUS

CN 1,3,6,8-Pyrenetetramine, N,N',N'',N'''-tetrakis(3-methylphenyl)-
N,N',N'',N'''-tetraphenyl- (9CI) (CA INDEX NAME)

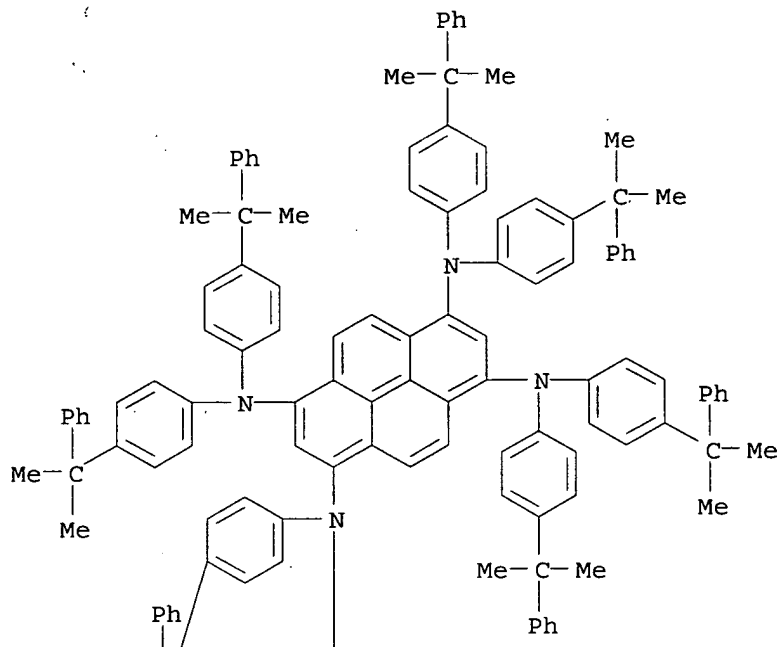
RN 671212-47-8 HCAPLUS

CN 1,3,6,8-Pyrenetetramine, N,N',N'',N'''-tetra-1-naphthalenyl-
N,N',N'',N'''-tetraphenyl- (9CI) (CA INDEX NAME)

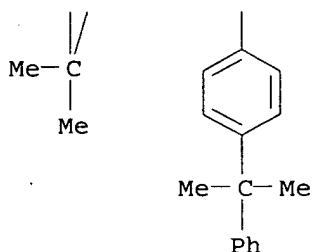
RN 671212-48-9 HCAPLUS

CN 1,3,6,8-Pyrenetetramine, N,N',N'',N'''-octakis[4-(1-methyl-1-phenylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM C07C211-61
ICS C09K011-06; H05B033-14; H05B033-22
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
Section cross-reference(s): 25, 73
IT **Luminescent screens**
(electroluminescent; manufacture of 1,3,6,8-substituted pyrenes as
dopants for green-emitting organic electroluminescent devices and
displays)
IT 671212-46-7P 671212-47-8P 671212-48-9P
(manufacture of 1,3,6,8-substituted pyrenes as dopants for
green-emitting organic electroluminescent devices and displays)

L48 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:141233 HCAPLUS
DOCUMENT NUMBER: 138:170261
TITLE: Azacyanine dye-based fluorescent

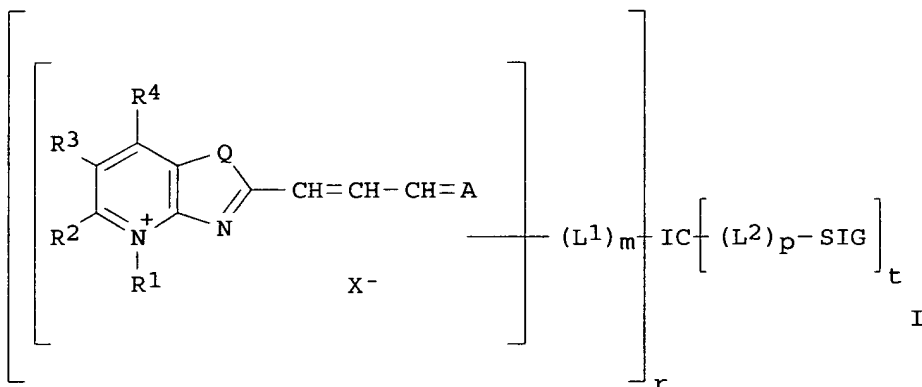
Indicators with high affinity for multiplex nucleic acid complex for detection of nucleic acids via hybridization

INVENTOR(S): Nakamura, Takeki
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003052400	A	20030225	JP 2001-247539	20010817
			<--	
PRIORITY APPLN. INFO.:			JP 2001-247539	20010817
			<--	

OTHER SOURCE(S): MARPAT 138:170261
 ED Entered STN: 25 Feb 2003
 GI



AB A method for detection of nucleic acids using hybridization probes and an azacyanine dye-based fluorescent indicator having higher affinity for duplex or triplex nucleic acid complex than to single-stranded forms are described. The fluorescent indicators of the invention have the general formula (I) (R1 = alkyl, aryl; Q = O, S, N(R), C(R)(R')); R, R' = H, monovalent substituent; R2, R3, R4 = H, monovalent substituent; R1 and R2, R2 and R3, or R3 and R4 may form a ring; A = atoms necessary for forming an azacyanine dye; X = counter ion or neg. charge within azacyanine dye; n = 0-2; L1 = divalent linker connecting IC and R1, R2, R3, R4, Q, or A; m = 0, 1; IC = planar 3- or 4- membered ring structure with affinity for multiplex nucleic acid complex; r = 1-4; L2 = divalent linker connecting SIG and IC; SIG = dye; p = 0,1; t = 0-3; r + t ≥ 2). Synthetic schemes for some of those compds. are shown. Fluorescent compds. of this invention provided a much higher signal to noise ratio compared to the reference compds. when used in combination with immobilized probes.

IT 497237-41-9

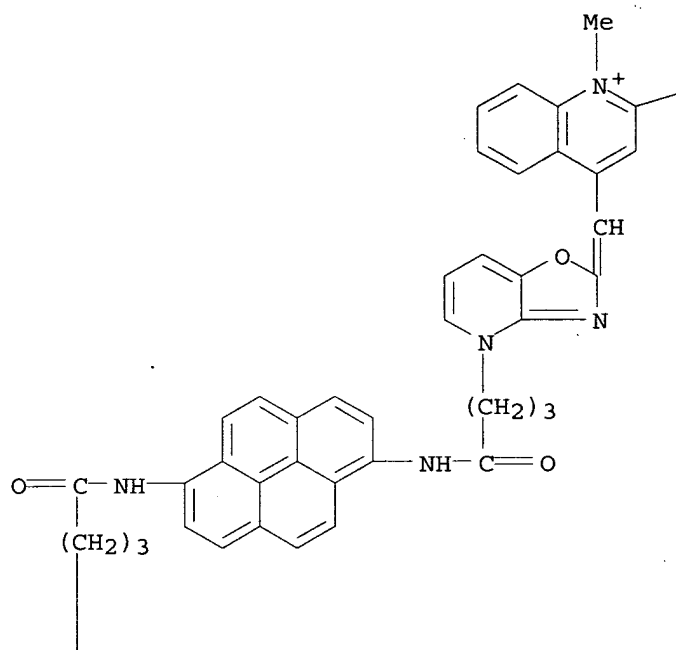
(azacyanine dye-based fluorescent indicators with high

affinity for multiplex nucleic acid complex for detection of
nucleic acids via hybridization)

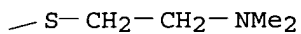
RN 497237-41-9 HCAPLUS

CN Quinolinium, 4,4'-[1,6-pyrenediylbis[imino(4-oxo-4,1-
butanediyl)oxazolo[4,5-b]pyridin-4(2H)-yl-2-ylidenemethylidene]]bis[2-
[[2-(dimethylamino)ethyl]thio]-1-methyl-, diiodide (9CI) (CA INDEX
NAME)

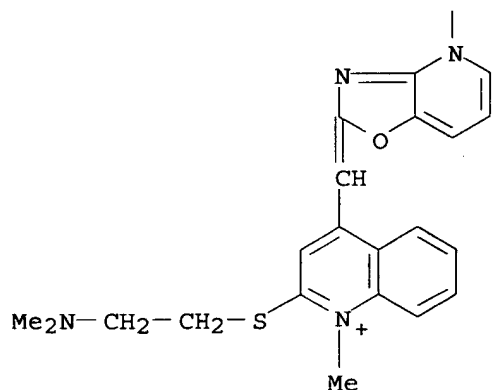
PAGE 1-A



PAGE 1-B



PAGE 2-A

● 2 I⁻

- IC ICM C12Q001-68
ICS C12N015-09; G01N021-78; G01N033-53; G01N033-566; G01N037-00
- CC 28-23 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 3, 9
- IT Quaternary structure
(DNA triplex, indicators with high affinity for; azacyanine dye-
based fluorescent indicators with high affinity for
multiplex nucleic acid complex for detection of nucleic acids via
hybridization)
- IT Cyanine dyes
Fluorescent indicators
Immobilization, molecular or cellular
(azacyanine dye-**based** fluorescent indicators with high
affinity for multiplex nucleic acid complex for detection of
nucleic acids via hybridization)
- IT Nucleic acids
(azacyanine dye-**based** fluorescent indicators with high
affinity for multiplex nucleic acid complex for detection of
nucleic acids via hybridization)
- IT Probes (nucleic acid)
(azacyanine dye-**based** fluorescent indicators with high
affinity for multiplex nucleic acid complex for detection of
nucleic acids via hybridization)
- IT Nucleic acids
(complexes, indicators with high affinity for; azacyanine dye-
based fluorescent indicators with high affinity for
multiplex nucleic acid complex for detection of nucleic acids via
hybridization)
- IT DNA
(double-stranded, indicators with high affinity for; azacyanine
dye-**based** fluorescent indicators with high affinity for
multiplex nucleic acid complex for detection of nucleic acids via
hybridization)
- IT Oligonucleotides
(immobilized, probes; azacyanine dye-**based** fluorescent
indicators with high affinity for multiplex nucleic acid complex
for detection of nucleic acids via hybridization)
- IT 497237-37-3 497237-39-5 497237-40-8 497237-41-9

- 497237-42-0
(azacyanine dye-based fluorescent indicators with high affinity for multiplex nucleic acid complex for detection of nucleic acids via hybridization)
- IT 497237-38-4P
(azacyanine dye-based fluorescent indicators with high affinity for multiplex nucleic acid complex for detection of nucleic acids via hybridization)
- IT 81-30-1 622-15-1 2969-81-5 4246-51-9, Diethyleneglycol bis(3-aminopropyl) ether 10299-70-4 24424-99-5, Di-tert-butyl dicarbonate 56602-33-6 194920-62-2
(azacyanine dye-based fluorescent indicators with high affinity for multiplex nucleic acid complex for detection of nucleic acids via hybridization)
- IT 407628-22-2P 497237-44-2P 497237-45-3P 497237-46-4P
497237-47-5P 497237-49-7P 497237-50-0P
(azacyanine dye-based fluorescent indicators with high affinity for multiplex nucleic acid complex for detection of nucleic acids via hybridization)
- IT 497317-00-7
(unclaimed nucleotide sequence; azacyanine dye-based fluorescent indicators with high affinity for multiplex nucleic acid complex for detection of nucleic acids via hybridization)

L48 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:964695 HCAPLUS

DOCUMENT NUMBER: 138:47036

TITLE: Organic electroluminescence device with gallium quinolinato complex and styryl arylene host

INVENTOR(S): Hosokawa, Chishio; Funahashi, Masakazu; Sakai, Toshio; Arakane, Takashi; Yamamoto, Hiroshi

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 73 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

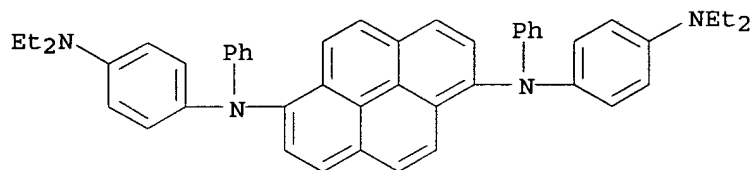
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002102118	A1	20021219	WO 2002-JP4427	20020507
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W: CN, IN, JP, KR				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1404160	A1	20040331	EP 2002-724697	20020507
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1513283	A	20040714	CN 2002-811332	20020507
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US 2003077480	A1	20030424	US 2002-141982	20020510
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US 2005227111	A1	20051013	US 2004-935102	20040908
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US 7087322	B2	20060808		
US 2006257687	A1	20061116	US 2006-480469	20060705
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PRIORITY APPLN. INFO.:			JP 2001-170960	A 20010606

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 WO 2002-JP4427 W 20020501
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 US 2002-141982 B1 20020510
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 US 2004-935102 A3 20040908

ED Entered STN: 20 Dec 2002
 AB The invention refers to an organic electroluminescence device comprising at least one organic thin-film layer with a **lamine** containing a metal complex with energy gap > 2.8 eV, and a host material layer. The electroluminescence device exhibits a high **luminance** and has high emission efficiency and a long life.
 IT 478702-59-9
 (organic electroluminescence device with gallium quinolinato complex and styryl arylene host)
 RN 478702-59-9 HCAPLUS
 CN 1,6-Pyrenediamine, N,N'-bis[4-(diethylamino)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)

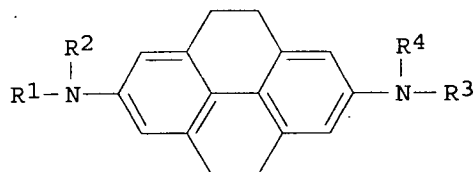


IC ICM H05B033-22
 ICS H05B033-14; C09K011-06
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 IT 23102-67-2 186412-15-7 221453-38-9 279672-58-1 403671-71-6
 403671-73-8 478702-59-9 478702-60-2
 (organic electroluminescence device with gallium quinolinato complex and styryl arylene host)
 REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L48 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2002:538511 HCAPLUS
 DOCUMENT NUMBER: 137:101222
 TITLE: Hole transport compound and organic thin film **luminescent** component
 INVENTOR(S): Ito, Yuichi
 PATENT ASSIGNEE(S): Toppan Printing Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002203685	A	20020719	JP 2000-399866	20001228
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PRIORITY APPLN. INFO.:			JP 2000-399866	20001228

OTHER SOURCE(S): MARPAT 137:101222
ED Entered STN: 19 Jul 2002
GI

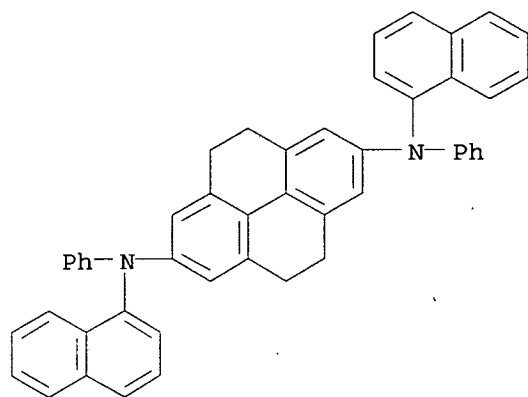


AB The invention refers to a tetrahydropyrene hole transport compound I [R1-2 = Ph, tolyl, naphthyl, biphenyl, 9,9-dimethylfluorene-2-yl, or 4,5,9,10-tetrahydropyrene; and R1,2 and/or R3,4 may be connected and contain at least one carbazoyl or iminobenzyl, and the unconnected Rn = Ph, tolyl, naphthyl, biphenyl, 9,9-dimethylfluorene-2-yl, or 4,5,9,10-tetrahydropyrene] with heat resistance properties.

IT 403671-76-1P
(hole transport compound and **organic** thin film
luminescent component)

RN 403671-76-1 HCAPLUS

CN 2,7-Pyrenediamine, 4,5,9,10-tetrahydro-N,N'-di-1-naphthalenyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-22

ICS C07C211-61; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST tetrahydropyrene hole transport material **luminescent**
material

IT Hole transport
Luminescent substances
(hole transport compound and **organic** thin film
luminescent component)

IT 442544-01-6
(hole transport compound and **organic** thin film
luminescent component)

IT 403671-76-1P
(hole transport compound and **organic** thin film)

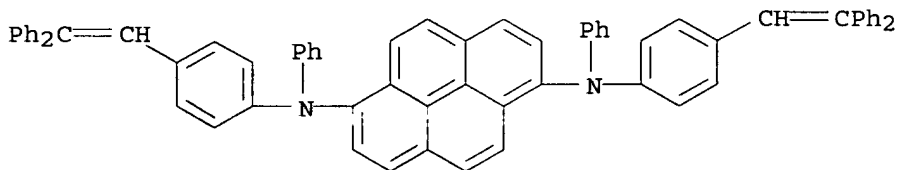
luminescent component)
 IT 865-48-5 3375-31-3 13716-12-6, Tri-tert-butylphosphine
 17533-36-7
 (hole transport compound and organic thin film
 luminescent component)

L48 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:313483 HCAPLUS
 DOCUMENT NUMBER: 136:332524
 TITLE: Organic electroluminescent devices
 INVENTOR(S): Hosokawa, Chishio; Funahashi, Masakazu
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002124385	A	20020426	JP 2000-319265	20001019
			<--	
PRIORITY APPLN. INFO.:			JP 2000-319265	20001019
			<--	

OTHER SOURCE(S): MARPAT 136:332524
 ED Entered STN: 26 Apr 2002
 AB The devices comprise a pair of electrodes interposing an organic electroluminescent **laminate** containing a phosphor layer comprising a polyarom. hydrocarbon ring.
 IT 415683-11-3
 (organic electroluminescent devices)
 RN 415683-11-3 HCAPLUS
 CN 1,6-Pyrenediamine, N,N'-bis[4-(2,2-diphenylethenyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
 ICS C07C013-40; C07C013-615; C09B048-00; C09K011-06
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 IT Electroluminescent devices
 Phosphors
 (organic electroluminescent devices)
 IT 2085-33-8, Tris(8-quinolinolato)aluminum 7439-93-2, Lithium, uses
 50926-11-9, ITO 65181-78-4, TPD 123847-85-8, α -NPD
 274256-88-1 415683-03-3 415683-04-4 415683-05-5 415683-06-6
 415683-07-7 415683-08-8 415683-09-9 415683-10-2
 415683-11-3 415683-13-5
 (organic electroluminescent devices)

L48 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:185057 HCAPLUS
 DOCUMENT NUMBER: 136:238791
 TITLE: Novel arylamine compounds and organic electroluminescent devices
 INVENTOR(S): Hosokawa, Chishio; Funahashi, Masakazu
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 44 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020460	A1	20020314	WO 2001-JP7477	20010830

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W: CN, IN, KR

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR

JP 2002080433	A	20020319	JP 2000-268833	20000905
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EP 1219590	A1	20020703	EP 2001-961205	20010830
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR

CN 1775737	A	20060524	CN 2005-10109955	20010830
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US 2002137969	A1	20020926	US 2001-945633	20010905
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US 6515182	B2	20030204		
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US 2003018218	A1	20030123	US 2002-193323	20020712
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US 6657084	B2	20031202		
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US 2004054232	A1	20040318	US 2003-658417	20030910
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US 7081550	B2	20060725		
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US 2006186799	A1	20060824	US 2006-406400	20060419
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PRIORITY APPLN. INFO.:			JP 2000-268833	A 20000905
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			CN 2001-802631	A3 20010830
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			WO 2001-JP7477	W 20010830
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			US 2001-945633	A3 20010905
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			US 2002-193323	A1 20020712
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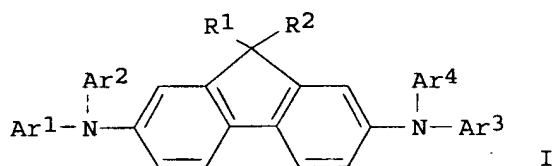
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			US 2003-658417	A1 20030910
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OTHER SOURCE(S): MARPAT 136:238791

ED Entered STN: 15 Mar 2002

GI



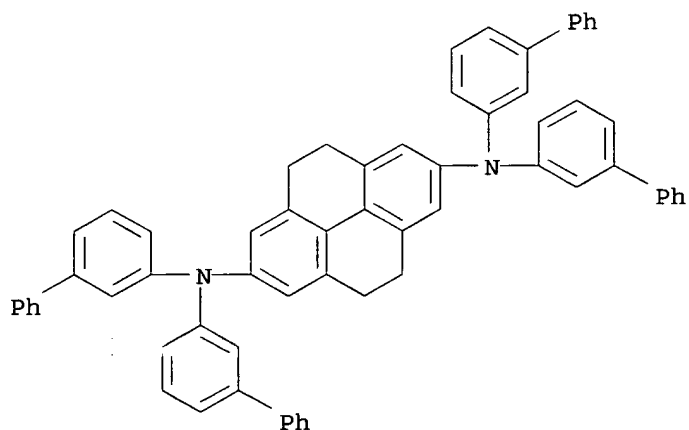
AB Novel arylamine compds. I, and an organic electroluminescent device whose organic compound layer contains a novel arylamine compound described above: I (wherein R1 and R2 are each independently alkyl, alkoxy, aryl, arylalkyl, or aryloxy; and Ar1 to Ar4 may be each independently aryl or a heterocyclic group, but at least 2 of Ar1 to Ar4 must be each m-biphenyl or aryl-substituted biphenyl with the remainder being each biphenyl, provided that when the aryl-substituted biphenyl is di-aryl-substituted biphenyl, the remainder are each aryl). The invention provides organic electroluminescent devices exhibiting high **luminance**, high heat resistance, long lifetime and high **light emitting** efficiency, and novel arylamine compds. capable of realizing such electroluminescent devices.

IT 403671-75-0 403671-76-1

(novel arylamine compds. and organic electroluminescent devices)

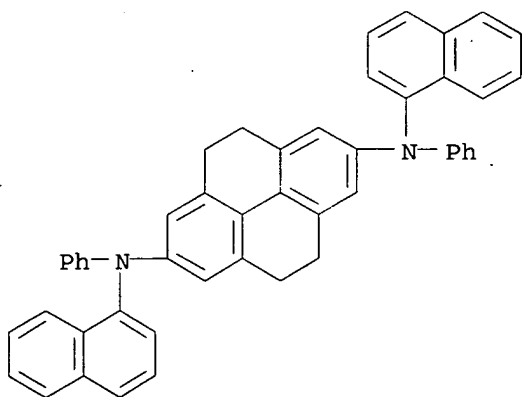
RN 403671-75-0 HCAPLUS

CN 2,7-Pyrenediamine, N,N,N',N'-tetrakis[1,1'-biphenyl]-3-yl-4,5,9,10-tetrahydro- (9CI) (CA INDEX NAME)



RN 403671-76-1 HCAPLUS

CN 2,7-Pyrenediamine, 4,5,9,10-tetrahydro-N,N'-di-1-naphthalenyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



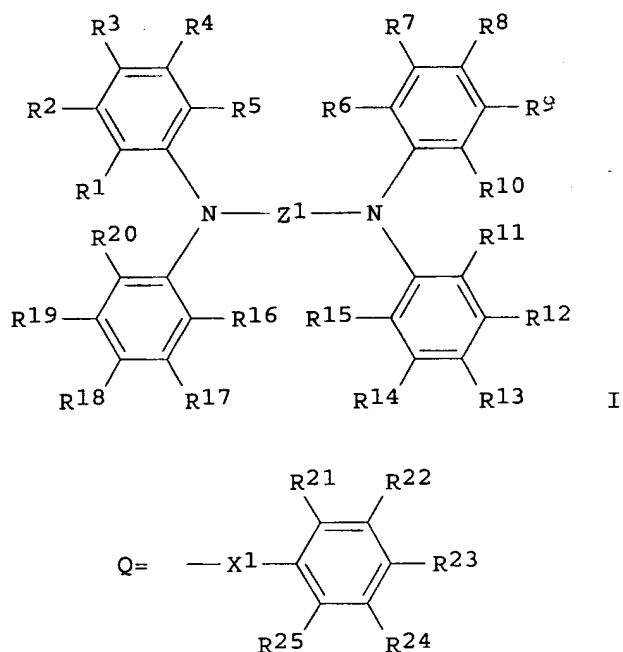
IC ICM C07C211-61
 ICS C07C225-22; C09K011-06; H05B033-14; H05B033-22
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 25
 IT Electroluminescent devices
 Glass **substrates**
 (novel arylamine compds. and organic electroluminescent devices)
 IT 2085-33-8, Tris(8-quinolinolato)aluminum 7439-93-2, Lithium, uses
 50926-11-9, ITO 65181-78-4, TPD **403671-75-0**
403671-76-1 403671-77-2 403671-78-3 403671-79-4
 (novel arylamine compds. and organic electroluminescent devices)
 REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L48 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1998:651124 HCAPLUS
 DOCUMENT NUMBER: 129:308409
 TITLE: Positive-hole injection material for organic
 electroluminescent device
 INVENTOR(S): Enokida, Toshio; Onikubo, Shunichi; Tamano,
 Michiko; Okutsu, Satoshi
 PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10265773	A	19981006	JP 1997-69911	19970324

PRIORITY APPLN. INFO.: JP 1997-69911 19970324
 <--

OTHER SOURCE(S): MARPAT 129:308409
 ED Entered STN: 14 Oct 1998
 GI



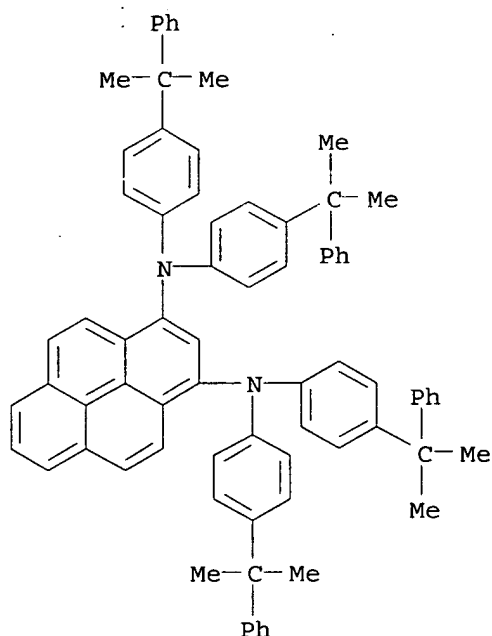
AB The material has a formula I [R1-20 = H, halo, alkyl, alkoxy, thioalkoxy, amino, monocyclic group, polycyclic group, Q; R21-25 = H, halo, alkyl, alkoxy, thioalkoxy, amino, monocyclic group, polycyclic group; R21-25 may form a cycloalkyl ring, aryl ring; X1 = direct bond, alkylene, (CR26R27)xO(CR28R29)y, (CR30R31)xS(CR32R33)y, O, S, CO, SO2, SiR34(R35), NR36, PR37, PO(R38); x, y = 0-8 integer; x = y ≠ 0; Z1 = Ar1, Ar2NR39Ar3, Ar4NR40Ar5NR41Ar6; Ar1-6 = arylene; R26-41 = alkyl, monocyclic group, polycyclic group]. The device shows high **luminance**, efficiency, long life, and storage stability.

IT 214338-08-6

(organic electroluminescent device containing aromatic pos.-hole injection material)

RN 214338-08-6 HCAPLUS

CN 1,3-Pyrenediamine, N,N,N',N'-tetrakis[4-(1-methyl-1-phenylethyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
 CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 IT 177799-15-4 205697-02-5 213968-34-4 213968-38-8 213968-61-7
 213968-69-5 214337-93-6 214337-94-7 214337-95-8 214337-96-9
 214337-97-0 214337-98-1 214338-00-8 214338-02-0 214338-03-1
 214338-04-2 214338-05-3 214338-06-4 214338-07-5
214338-08-6 214338-09-7 214338-10-0 214338-11-1
 214338-12-2 214338-13-3 214338-14-4 214338-15-5 214338-16-6
 214338-17-7 214338-18-8 214338-19-9 214338-20-2 214338-21-3
 214338-22-4 214338-23-5 214338-24-6 214338-25-7 214338-26-8
 214338-27-9 214338-28-0 214338-29-1 214338-30-4 214338-31-5
 214338-32-6 214338-33-7 214338-34-8 214338-35-9 214338-36-0
 214338-37-1 214338-38-2 214338-39-3 214338-40-6 214338-41-7
 214338-42-8 214338-43-9 214338-44-0 214338-45-1 214338-46-2
 214338-47-3 214338-48-4 214338-49-5 214338-50-8 214338-51-9
 214338-52-0 214338-53-1 214338-54-2 214338-55-3 214338-56-4
 214338-57-5 214338-58-6 214338-59-7 214338-60-0 214338-61-1
 214338-62-2 214338-63-3 214338-64-4 214338-65-5 214338-66-6
 214338-67-7 214338-68-8 214338-69-9 214338-70-2 214338-71-3
 214338-72-4 214338-73-5 214338-74-6 214338-75-7 214338-76-8
 214338-77-9

(organic electroluminescent device containing aromatic pos.-hole injection material)

L48 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:614437 HCAPLUS

DOCUMENT NUMBER: 129:295965

TITLE: Organic electroluminescent device with high luminance and polycyclic phosphorescent compound therefor

INVENTOR(S): Onikubo, Shunichi; Tamano, Michiko; Okutsu, Satoshi; Enokida, Toshio

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan

SOURCE: Jpn Kokai Tokkyo Koho, 5> pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10251633	A	19980922	JP 1997-62568	19970317
			<--	
JP 3503403	B2	20040308		
EP 866110	A1	19980923	EP 1998-301986	19980317
			<--	
EP 866110	B1	20041020		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 934992	A1	19990811	EP 1999-106698	19980317
			<--	
EP 934992	B1	20040721		
R: DE, FR, GB				
US 6280859	B1	20010828	US 1998-42569	19980317
			<--	
US 2001033944	A1	20011025		
PRIORITY APPLN. INFO.:			JP 1997-62568	A 19970317
			<--	
			EP 1998-301986	A3 19980317
			<--	

OTHER SOURCE(S): MARPAT 129:295965
 ED Entered STN: 29 Sep 1998
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

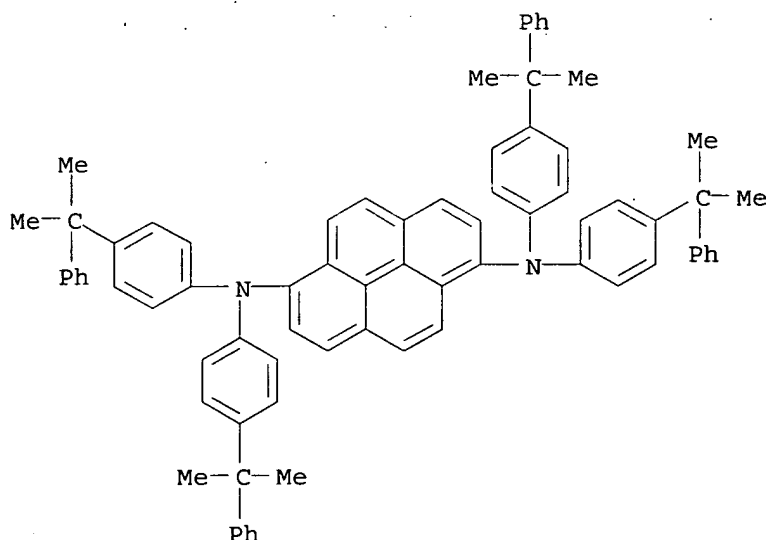
AB The claimed compound is I [A = aromatic (condensed) ring, (condensed) heterocycle excluding Q1 (E = H or linkage), bivalent group comprising ≥2 kinds of 2-10 above ring systems which are connected directly or via O, N, S, C1-20 chain, nonarom. cycle, where the case of A = Q3 is excluded; Ar1-4 = (condensed) aromatic group; X1-4 = O, S, CO, SO2, CxH2xOCyH2y (x, y = 0-20; x + y ≠ 0), C2-20 alkyl(id)ene, bivalent alicyclic group; R1-20 = H, halo, alkyl (oxy), aromatic ring, aromatic heterocycle, amino]. Also claimed is an organic electroluminescent device containing I with high **luminance** and good stability in repeated uses.

IT 213968-46-8

(**luminescent** material; **organic** electroluminescent device containing polycyclic phosphorescent compound with high **luminance**)

RN 213968-46-8 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis[4-(1-methyl-1-phenylethyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 25
 ST electroluminescent device polycyclic phosphorescent compd
 luminance
 IT Electroluminescent devices
 (organic; organic electroluminescent device containing polycyclic phosphorescent compound with high luminance)
 IT 205697-02-5 213968-34-4 213968-36-6 213968-38-8 213968-40-2
 213968-41-3 213968-42-4 213968-43-5 213968-44-6 213968-45-7
213968-46-8 213968-47-9 213968-48-0 213968-49-1
 213968-50-4 213968-51-5 213968-52-6 213968-53-7 213968-54-8
 213968-55-9 213968-56-0 213968-57-1 213968-58-2 213968-59-3
 213968-60-6 213968-61-7 213968-62-8 213968-63-9 213968-64-0
 213968-65-1 213968-66-2 213968-67-3 213968-68-4 213968-69-5
 213968-70-8 213968-71-9 213968-73-1 213968-74-2 213968-75-3
 213968-76-4 213968-77-5 213968-79-7 213968-80-0 213968-81-1
 213968-82-2 213968-83-3 213968-85-5 213968-86-6 213968-87-7
 213968-88-8 213968-89-9 213968-91-3 213968-92-4 213968-93-5
 213968-94-6 213968-95-7 213968-96-8 213968-97-9 213968-98-0
 213969-01-1 213969-00-7 213969-01-8 213969-02-9 213969-03-0
 213969-04-1 213969-05-2 213969-06-3 213969-07-4 213969-08-5
 213969-09-6 213969-10-9 213969-11-0 213969-12-1 213969-13-2
 213969-14-3 213969-15-4 213969-16-5 213969-17-6 213969-18-7
 213969-19-8 213969-20-1 213969-21-2 213969-22-3 213969-23-4
 (luminescent material; organic electroluminescent device containing polycyclic phosphorescent compound with high luminance)

L48 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:211295 HCAPLUS

DOCUMENT NUMBER: 128:263742

TITLE: organic electroluminescent devices with high durability and using N-phenylaminopyrene derivatives

INVENTOR(S): Tamura, Shinichiro; Ichimura, Mari

PATENT ASSIGNEE(S): Sony Corp., Japan

SOURCE: Jpn. Koka: Tokkyo Koho, 8 pp.
 CODEN: JKXJAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10088122	A	19980407	JP 1996-240885	19960912

PRIORITY APPLN. INFO.: JP 1996-240885 19960912
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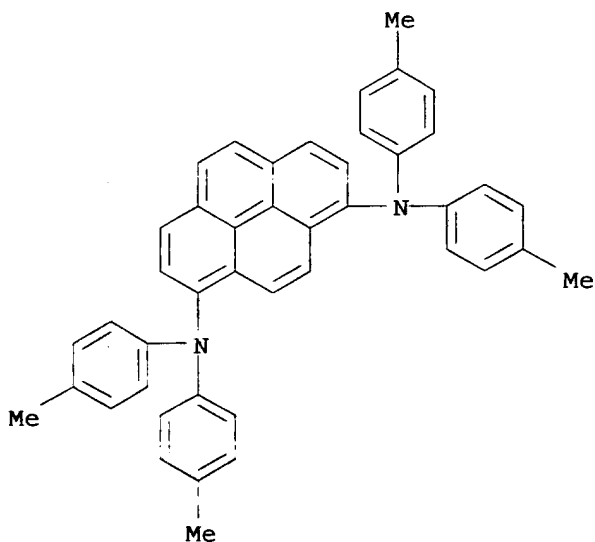
OTHER SOURCE(S): MARPAT 128:263742
 ED Entered STN: 15 Apr 1998
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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

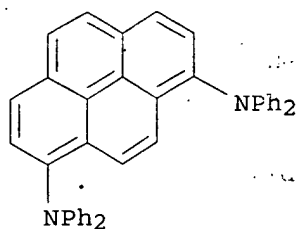
AB The devices, showing high **luminance** efficiency, contain N-phenylaminopyrene derivs. preferably represented by ≥ 1 of I-III [R1-3 = H, alkyl (oxy), halo, and/or (un)substituted Ph] as hole-transporting materials in emitting layers.

IT 142827-48-3P 205037-20-3P 205037-24-7P
 205037-25-8P
 (in preparation of N-phenylaminopyrene derivs. for electroluminescent devices with excellent durability)

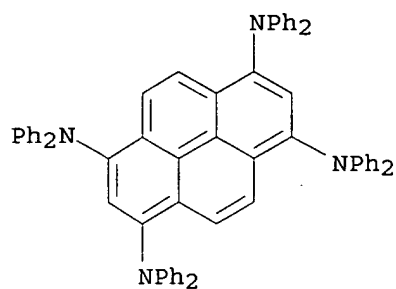
RN 142827-48-3 HCAPLUS
 CN 1,8-Pyrenediamine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 205037-20-3 HCAPLUS
 CN 1,8-Pyrenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)

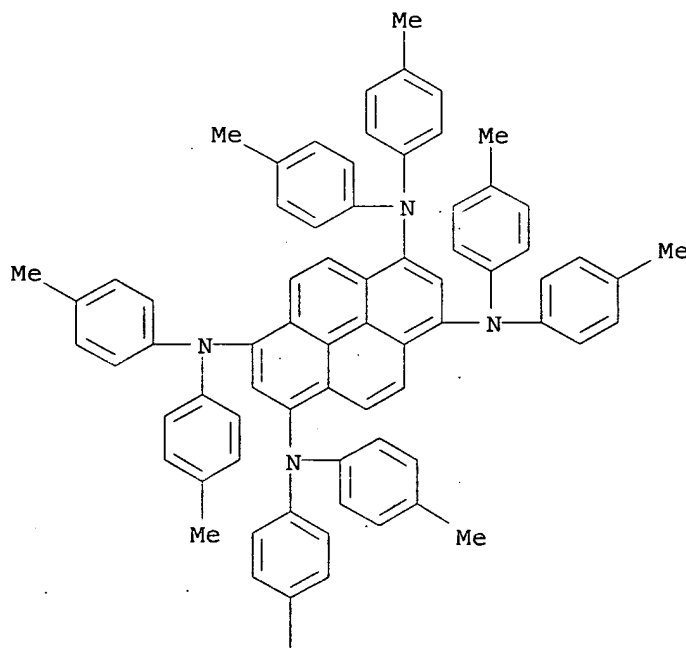


RN 205037-24-7 HCAPLUS
 CN 1,3,6,8-Pyrenetetramine, N,N,N',N',N'',N'',N''',N'''-octaphenyl- (9CI)
 (CA INDEX NAME)



RN 205037-25-8 HCAPLUS
 CN 1,3,6,8-Pyrenetetramine, N,N,N',N',N'',N'',N''',N'''-octakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

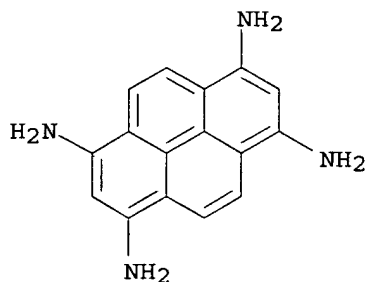
PAGE 1-A



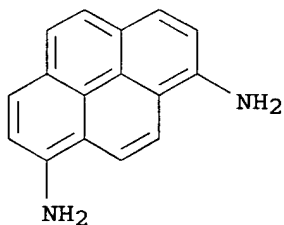
PAGE 2-A

Me

IT 28496-13-1, 1,3,6,8-Pyrenetetramine 30269-04-6,
 1,8-Diaminopyrene
 (in preparation of N-phenylaminopyrene derivs. for electroluminescent
 devices with excellent durability)
 RN 28496-13-1 HCAPLUS
 CN 1,3,6,8-Pyrenetetramine (8CI, 9CI) (CA INDEX NAME)



RN 30269-04-6 HCAPLUS
 CN 1,8-Pyrenediamine (6CI, 9CI) (CA INDEX NAME)



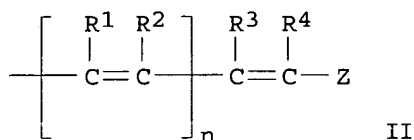
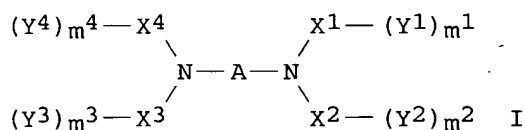
IC ICM C09K011-06
 ICS H05B033-14; H05B033-22
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)
 Section cross-reference(s): 25
 IT **Fluorescent dyes**
 (electroluminescent devices with high durability and using
 N-phenylaminopyrene derivs.)
 IT 142827-48-3P 205037-20-3P 205037-22-5P
 205037-23-6P 205037-24-7P 205037-25-8P
 (in preparation of N-phenylaminopyrene derivs. for electroluminescent
 devices with excellent durability)
 IT 591-50-4, Iodobenzene 624-31-7, 4-Iodotoluene 28496-13-1,
 1,3,6,8-Pyrenetetramine 30269-04-6, 1,8-Diaminopyrene
 205037-21-4
 (in preparation of N-phenylaminopyrene derivs. for electroluminescent
 devices with excellent durability)

L48 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

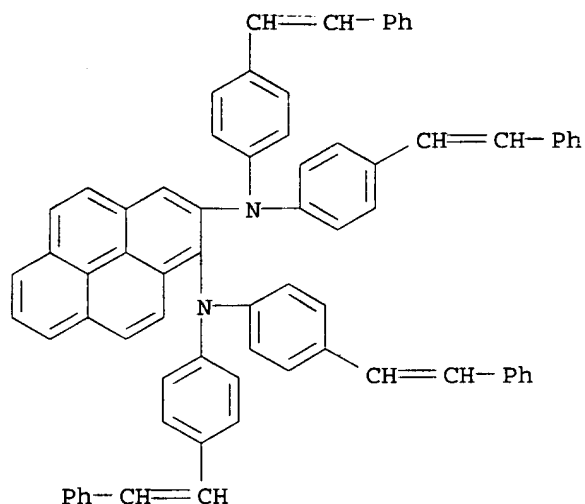
ACCESSION NUMBER: 1997:678708 HCAPLUS
 DOCUMENT NUMBER: 128:17237
 TITLE: Organic electroluminescent device elements
 INVENTOR(S): Enokida, Toshio; Tamano, Michiko
 PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 33 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09268284	A	19971014	JP 1996-78501	19960401
			<--	
JP 3564859	B2	20040915		
PRIORITY APPLN. INFO.:			JP 1996-78501	19960401
			<--	

OTHER SOURCE(S): MARPAT 128:17237
 ED Entered STN: 25 Oct 1997
 GI



AB The elements comprise the phosphors I containing II; I [A, X1-4 = C2-20 arylene; m1, m2, m3, m4 = 0-2; Y1-4 = II] II [R1-4 = H, (un)substituted alkyl, (un)substituted aryl, CN; Z = (un)substituted aryl; n = 0, 1]; a tertiary amine derivative (B1,2N)G(NB3,4) formed between the phosphor and the anode [B1-4 = (un)substituted C6-20 aryl; G = (un)substituted arylene]; and a metal complex Q1,2GaL formed between the phosphor and the cathode [Q1,2 = (un)substituted hydrobenzoquinoline derivative; L = halo, (un)substituted (cyclo)alkyl, aryl cong. optional (un)substituted N, OR (R = L)].
 IT 198903-47-8
 (organic electroluminescent device elements)
 RN 198903-47-8 HCAPLUS
 CN 1,2-Pyrenediamine, N,N,N',N'-tetrakis[4-(2-phenylethenyl)phenyl]-(9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT **Phosphors**
(electroluminescent; organic electroluminescent device elements)
IT 517-51-1 905-62-4 980-26-7 1047-16-1 1499-10-1 2085-33-8
7520-01-6 13978-85-3 14642-34-3 15082-28-7 38215-36-0
51325-91-8 58361-82-3 58473-78-2 61843-06-9 65181-78-4
73276-70-7 99762-78-4 123847-85-8 139255-17-7 143010-15-5
146162-54-1 146162-63-2 150405-69-9 151026-65-2 164259-44-3
166444-98-0 185505-35-5 186965-89-9 188049-36-7 188049-37-8
188049-39-0 188049-41-4 189263-95-4 198903-35-4 198903-36-5
198903-37-6 198903-38-7 198903-39-8 198903-40-1 198903-41-2
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198903-51-4 198903-52-5 198903-53-6 198903-54-7 198903-55-8
198903-56-9 198903-57-0 198903-58-1 198903-59-2 198903-60-5
198903-61-6 198903-62-7 198903-63-8 198903-64-9
(organic electroluminescent device elements)

L48 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:641144 HCAPLUS
DOCUMENT NUMBER: 125:288355
TITLE: Organic electroluminescent device
INVENTOR(S): Hosokawa, Chishio; Kawamura, Hisayuki
PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08199162	A	19960806	JP 1995-10918	19950126
JP 3506281	B2	20040315		

<--

JP 2004006375 A 20040108 JP 2003-176314 20030620
 JP 2006128715 A 20060518 JP 2006-9511 20060118
 PRIORITY APPLN. INFO.: JP 1995-10918 A3 19950126
 JP 2003-176314 A3 20030620

OTHER SOURCE(S): MARPAT 125:288355

ED Entered STN: 31 Oct 1996

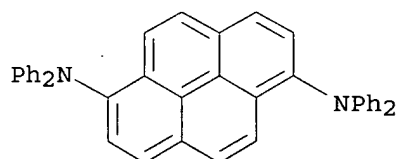
AB An organic electroluminescent device, having prolonged stability, suited for use as displays, wherein the recombination region and/or electroluminescent region, sandwiched between a pair of electrodes, contains 0.1-8 % of fluorescent dopant(s) selected from the compound represented by Ar1N(Ar2)Ar3 [Ar1-3 = C1-10 alkyl, C6-30 aryl, and heterocyclic; one of Ar1-3 is C_≥12 condensed polycyclic hydrocarbon] and Ar4(Ar6)NAr8N(Ar7)Ar5 [Ar4-7 = C1-10 alkyl, C6-30 aryl, and heterocyclic; Ar8 = C6-30 arylene, or divalent heterocyclic; one of Ar4-8 is C_≥12 condensed polycyclic hydrocarbon].

IT 76656-53-6

(organic electroluminescent device)

RN 76656-53-6 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06

ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT **Fluorescent substances**

(organic electroluminescent device)

IT 70782-27-3 76656-53-6 123847-85-8 124729-98-2

139255-20-2 139255-24-6 142289-08-5 182426-74-0 182426-75-1

(organic electroluminescent device)

L48 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:612438 HCAPLUS

DOCUMENT NUMBER: 125:234385

TITLE: Positive hole-transporting material and usage thereof

INVENTOR(S): Enokida, Toshio; Tamano, Michiko; Onikubo, Shunichi

PATENT ASSIGNEE(S): Toyo Ink Mfg Co, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08179526	A	19960712	JP 1994-319695	19941222

JP 3269300

B2

20020325

PRIORITY APPLN. INFO.:

JP 1994-319695

19941222

ED Entered STN: 14 Oct 1996

GI For diagram(s), see printed CA Issue.

AB The material has the general formula ABA [A = diamine derivative residue I ; R1-9= H, halo, (substituted) alkyl, (substituted) alkoxy, (substituted) thioalkoxy, cyano, (mono- or di-substituted) amino, OH, SH, (substituted) aryloxy, (substituted) arylthio, (substituted) aromatic ring, (substituted) heterocycle; ≥ 1 of each of R1-3, R4-6, and R7-9 is not H and the adjacent groups may form alicyclic, carbocyclic aromatic, or heterocyclic aromatic rings which may be substituted; X = divalent aromatic ring residue; B = alicyclic residue II ; Y = (substituted) alkyl; n = 2-7; m = 0-2n]. Organic electroluminescent devices comprising ≥ 1 organic compound thin film **luminescent** layers ≥ 1 of which contains the material, and electrophotog. photoreceptors containing a charge-generating agent and the material are also claimed. The material shows good pos. hole-transporting properties and high quality electroluminescent devices and photoreceptors are obtained by using it. Thus, III was used typically for the material, which was prepared by reacting cyclohexanone with 9,10-bis(4-butylphenylphenylamino)phenanthrene.

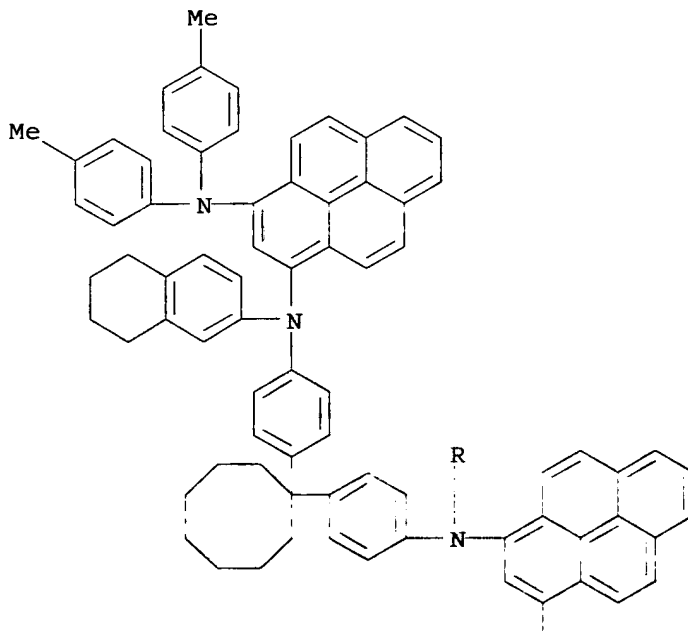
IT 181796-96-3

(pos. hole transporting agent for electrophotog. photoreceptor and electroluminescent device)

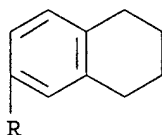
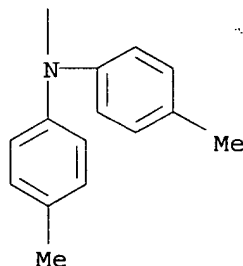
RN 181796-96-3 HCAPLUS

CN 1,3-Pyrenediamine, N,N'-(cyclooctylidenedi-4,1-phenylene)bis[N',N'-bis(4-methylphenyl)-N-(5,6,7,8-tetrahydro-2-naphthalenyl)-(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM G03G005-06
ICS G03G005-06
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 25, 76
IT 181796-76-9 181796-77-0 181796-78-1 181796-79-2 181796-80-5
181796-81-6 181796-82-7 181796-84-9 181796-86-1 181796-88-3
181796-90-7 181796-92-9 181796-94-1 **181796-96-3**
181796-98-5 181796-99-6 181797-00-2 181797-01-3 181797-02-4
(pos. hole transporting agent for electrophotog. photoreceptor and electroluminescent device)

L48 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:294601 HCAPLUS

DOCUMENT NUMBER: 124:328419

TITLE: Hole-transporting material for organic electroluminescence device or electrophotographic photoreceptor

INVENTOR(S): Tamano, Michiko; Onikubo, Toshikazu; Uemura, Toshikyuki; Ogawa, Tadashi; Enokida, Toshio

PATENT ASSIGNEE(S): Toyo Ink Manufacturing Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 34 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 699654	A1	19960306	EP 1995-305450	19950804
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EP 699654	B1	19990331		
R: DE, FR, GB				
JP 08227165	A	19960903	JP 1995-164912	19950630
			<--	
JP 3261930	B2	20020304		
JP 08100038	A	19960416	JP 1995-171739	19950707

JP 3296147
US 5681664

B2 20020624
A 19971028

US 1995-510535 19950802

PRIORITY APPLN. INFO.:

JP 1994-183198 A 19940804

JP 1994-319694 A 19941222

ED Entered STN: 17 May 1996

AB A hole-transporting material of formula H-A-[-B-A-]_n-B-A-H has excellent hole-transporting capability and excellent durability, wherein A is a specified aromatic amine derivative residue, B is a residue, and n is an integer of 1-5000. The materials may be included in an organic EL device of an electrophotog. photoreceptor which are excellent in stability in continuous long-term use.

IT 176443-64-4

(hole-transporting material for EL device or electrophotog. photoreceptor)

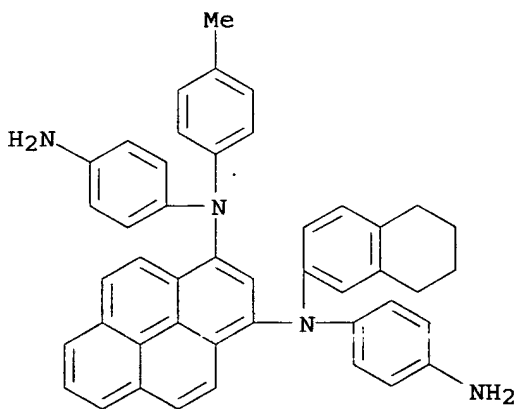
RN 176443-64-4 HCAPLUS

CN 1H-Inden-1-one, 2,3-dihydro-, polymer with N,N'-bis(4-aminophenyl)-N-(4-methylphenyl)-N'-(5,6,7,8-tetrahydro-2-naphthalenyl)-1,3-pyrenediamine (9CI) (CA INDEX NAME)

CM 1

CRN 176443-63-3

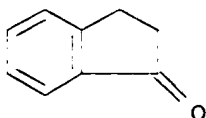
CMF C45 H38 N4



CM 2

CRN 83-33-0

CMF C9 H8 O



IC ICM C07C211-54

ICS C07C217-01; C07C323-36; C07C323-37; C07D211-26; C07D309-14;
C07D335-02; C08G075-02; G03G005-06; G03G005-07

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

IT 176443-14-4 176443-25-7 176443-27-9 176443-29-1 176443-31-5
176443-32-6 176443-34-8 176443-36-0 176443-38-2 176443-40-6
176443-42-8 176443-43-9 176443-45-1 176443-46-2 176443-47-3
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176443-64-4 176443-66-6 176443-68-8 176443-70-2
176443-72-4 176443-73-5 176443-75-7 176443-77-9 176443-79-1
176443-81-5 176443-83-7
(hole-transporting material for EL device or electrophotog.
photoreceptor)

L48 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1982:431164 HCAPLUS

DOCUMENT NUMBER: 97:31164

TITLE: Radical yield in electron transfer quenching of
the excited tris(2,2'-bipyridine)ruthenium(II)
complex

AUTHOR(S): Shioyama, Hiroshi; Masuhara, Hiroshi; Mataga,
Noboru

CORPORATE SOURCE: Fac. Eng. Sci., Osaka Univ., Toyonaka, 560, Japan

SOURCE: Chemical Physics Letters (1982), 88(2),
161-5

CODEN: CHPLBC; ISSN: 0009-2614

DOCUMENT TYPE: Journal

LANGUAGE: English

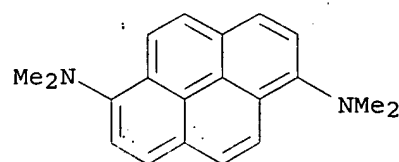
ED Entered STN: 12 May 1984

AB The radical yield of excited tris(2,2'-bipyridine)ruthenium(II)
quenched by several amines was determined with a dye laser photolysis
method. The yield was unity and was independent of the free energy
change of the radical formation process.

IT 10075-93-1
(photolysis of tris(bipyridine)ruthenium(II) and, electron transfer
in)

RN 10075-93-1 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetramethyl- (8CI, 9CI) (CA INDEX NAME)



CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

IT Luminescence quenching
(of tris(bipyridine)ruthenium(II) by aromatic amines)

IT 74-31-7 91-59-8 92-84-2 100-22-1 119-93-7 366-29-0

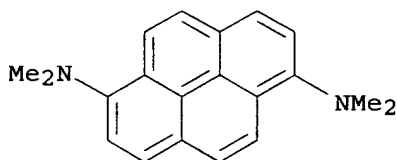
10075-93-1

(photolysis of tris(bipyridine)ruthenium(II) and, electron transfer
in)

L48 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1967:120492 HCAPLUS

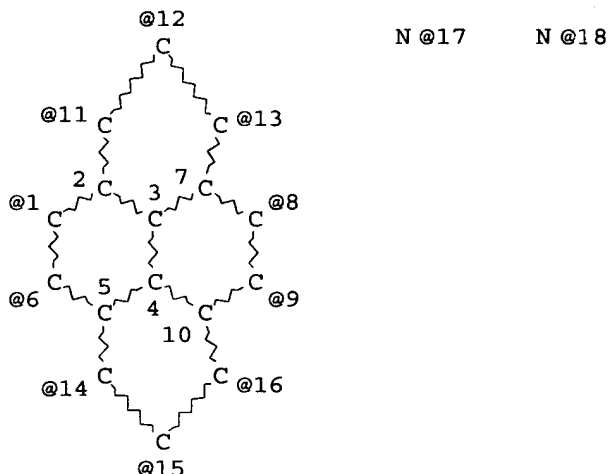
DOCUMENT NUMBER: 66:120492
 TITLE: Oxidation, reduction, and electrochemiluminescence of donor-substituted polycyclic aromatic hydrocarbons
 AUTHOR(S): Zweig, Arnold; Maurer, Arthur H.; Roberts, Bernard George
 CORPORATE SOURCE: Amer. Cyan. Co., Stamford, CT, USA
 SOURCE: Journal of Organic Chemistry (1967), 32(5), 1322-9
 CODEN: JOCEAH; ISSN: 0022-3263
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 12 May 1984
 AB The effect of chemical structure on electrochemiluminescence (E.C.L.) and the mol. properties associated with this phenomenon have been explored. Polarographic oxidation and reduction potentials and the fluorescence emission spectra in aprotic media of donor-substituted polycyclic aromatic mols. were measured. The stabilities of ion radicals generated from these compds. were determined by means of cyclic voltammetry. The results are in general agreement with the assumption that the efficiency of the E.C.L. process is associated with the fluorescence, efficiency, and stability of the one-electron oxidation and reduction products under the exptl. conditions. While multiple donor substituents on polycyclic aromatic nuclei result in fluorescent compds. with stable cations, the orientation of such substituents which is most effective in stabilizing the cation also results in extensive anion destabilization. The results are discussed in terms of the M.O. theory. 42 references.
 IT 10075-93-1
 (electrochemiluminescence and polarography of)
 RN 10075-93-1 HCAPLUS
 CN 1,6-Pyrenediamine, N,N,N',N'-tetramethyl- (8CI, 9CI) (CA INDEX NAME)



CC 73 (Spectra and Other Optical Properties)
 IT **Luminescence**
 (electrochemi-, of polycyclic aromatic hydrocarbons, polarography and)
 IT 86-56-6 91-20-3, Naphthalene, properties 92-52-4, properties
 93-04-9 120-12-7, properties 129-00-0, properties 366-29-0
 613-37-6 2132-80-1 2216-69-5 2395-96-2 2395-97-3 2436-85-3
 3469-26-9 3900-49-0 4877-93-4 5309-18-2 5486-55-5 5710-05-4
 6161-50-8 7343-31-9 7343-32-0 7433-79-6 10075-61-3
 10075-62-4 10075-63-5 10075-66-8 10075-68-0 10075-69-1
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 10075-83-9 10075-84-0 10075-85-1 10075-86-2 10075-90-8
 10075-91-9 10075-93-1 10075-94-2 10075-95-3 10103-06-7
 10103-10-3 10294-75-4
 (electrochemiluminescence and polarography of)

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L5 STR



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VPA 18-1/6/14/15/16/9/8/13/12/11 U

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

MLEVEL IS CLASS AT 11 12 13 14 15 16

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS UNLIMITED AT 11 12 13 14 15 16

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L7 662 SEA FILE=REGISTRY SSS FUL L5

L10 754 SEA FILE=HCAPLUS ABB=ON PLU=ON L7

L28 2608 SEA FILE=HCAPLUS ABB=ON PLU=ON SEO, J?/AU

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L33 2 SEA FILE=HCAPLUS ABB=ON PLU=ON (L28 OR L29 OR L30 OR L31
OR L32) AND L10

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L33 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:568210 HCAPLUS

DOCUMENT NUMBER: 141:131023

TITLE: Organic electroluminescent devices employing
blue-emitting dopants based on amine derivatives
of pyreneINVENTOR(S): Seo, Jeong Dae; Lee, Kyung Hoon
; Kim, Hee Jung; Park, Chun Gun
; Oh, Hyoung Yun

PATENT ASSIGNEE(S): Lg Electronics Inc., S. Korea

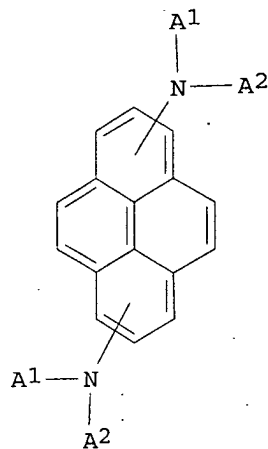
SOURCE: Eur. Pat. Appl., 43 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1437395	A2	20040714	EP 2003-29661	20031223
EP 1437395	A3	20050831		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
KR 2004057862	A	20040702	KR 2003-20465	20030401
US 2004137270	A1	20040715	US 2003-743778	20031224
JP 2004204238	A	20040722	JP 2003-428297	20031224
CN 1535089	A	20041006	CN 2003-10124405	20031224
JP 2007027779	A	20070201	JP 2006-245563	20060911
PRIORITY APPLN. INFO.:			KR 2002-83279	A 20021224
			KR 2003-20465	A 20030401
			JP 2003-428297	A3 20031224

OTHER SOURCE(S): MARPAT 141:131023
 ED Entered STN: 16 Jul 2004
 GI



AB Organic electroluminescent devices are described which comprise a substrate; a first and second electrodes formed on the substrate; an emitting layer formed between the first electrode and the second electrode, the emitting layer having a plurality of materials one of which being a blue-emitting dopant with general formula (I), where at least one of A1 and A2 is selected from a substituted or non-substituted aromatic group, a heterocyclic group, an aliphatic group and hydrogen. The materials forming the emitting layer together with the material of I may have a chemical formula B1-X-B2 where X is selected from a group consisting of naphthalene, anthracene, phenanthrene, pyrene, perylene, and quinoline and at least 1 of the B1 and B2 is selected from a group consisting of aryl, alkylaryl, alkoxyaryl, arylaminoaryl and alkylaminoaryl.

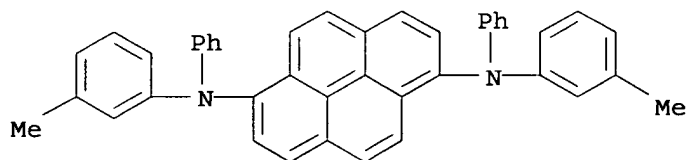
IT 76656-51-4 143141-30-4 163969-53-7

663954-33-4 668019-96-3 722498-76-2
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 722499-47-0 722499-48-1 722499-49-2
 722499-50-5 722499-51-6 722499-52-7
 722499-53-8 722499-54-9

(blue-emitting dopant; organic electroluminescent devices employing
 blue-emitting dopants based on amine derivs. of pyrene)

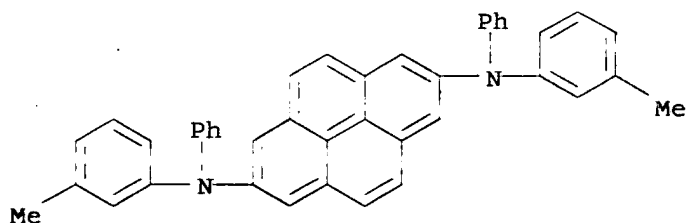
RN 76656-51-4 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis(3-methylphenyl)-N,N'-diphenyl- (9CI) (CA
 INDEX NAME)



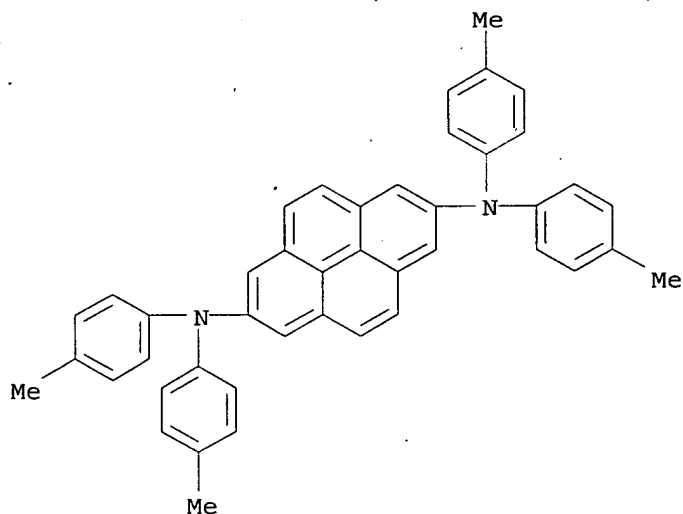
RN 143141-30-4 HCAPLUS

CN 2,7-Pyrenediamine, N,N'-bis(3-methylphenyl)-N,N'-diphenyl- (9CI) (CA
 INDEX NAME)



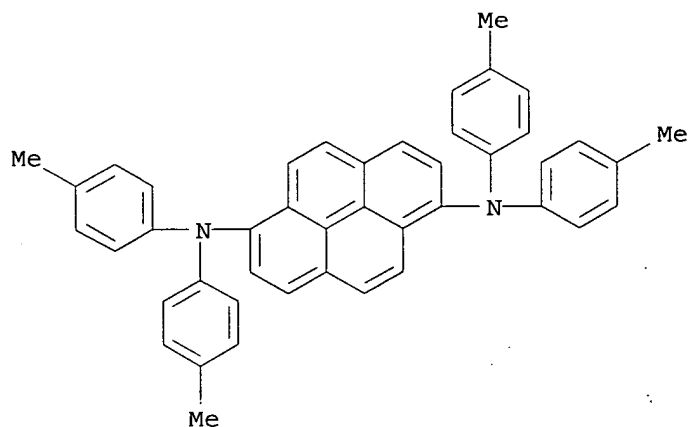
RN 163969-53-7 HCAPLUS

CN 2,7-Pyrenediamine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA
 INDEX NAME)



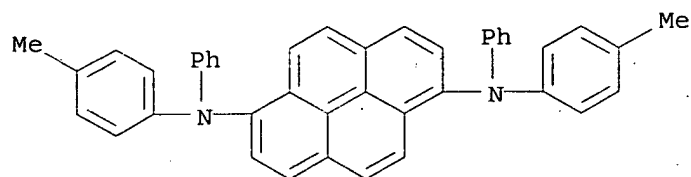
RN 663954-33-4 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



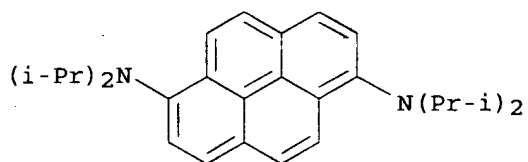
RN 668019-96-3 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis(4-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



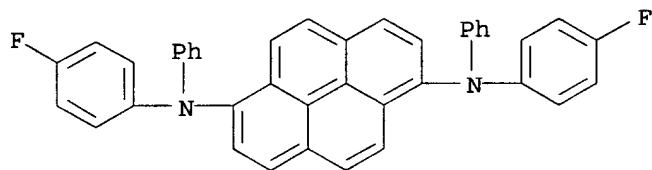
RN 722498-76-2 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis(1-methylethyl)- (9CI) (CA INDEX NAME)



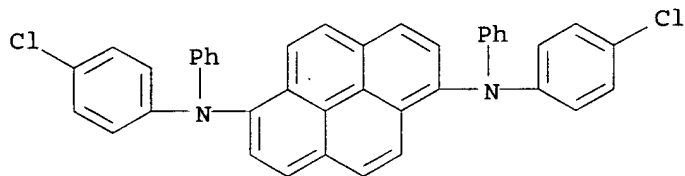
RN 722498-77-3 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis(4-fluorophenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



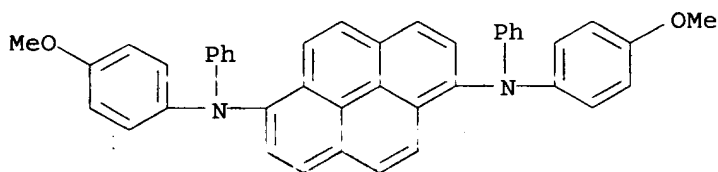
RN 722498-78-4 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



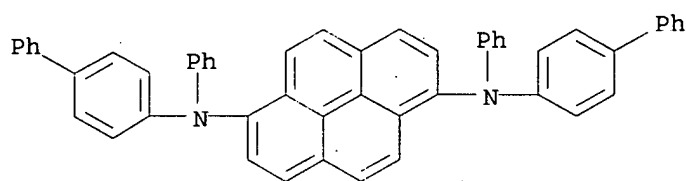
RN 722498-79-5 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis(4-methoxyphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



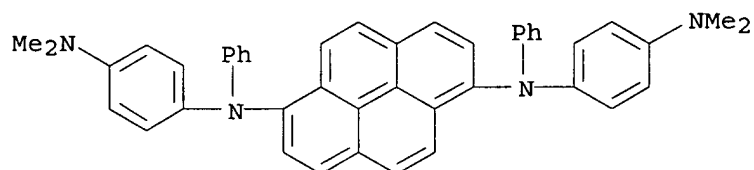
RN 722498-80-8 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis([1,1'-biphenyl]-4-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



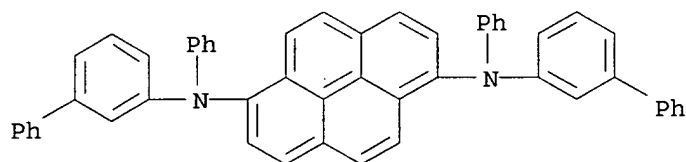
RN 722498-81-9 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis[4-(dimethylamino)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



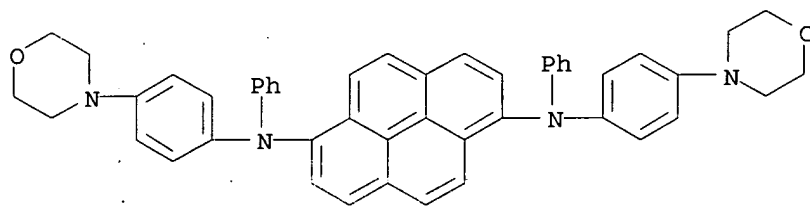
RN 722498-82-0 HCAPLUS

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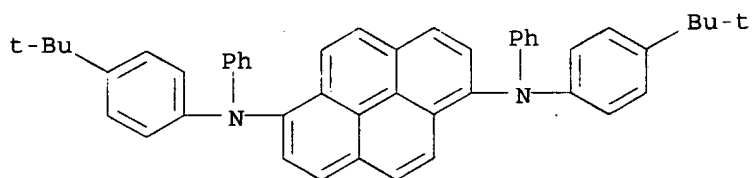
RN 722498-83-1 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis[4-(4-morpholinyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



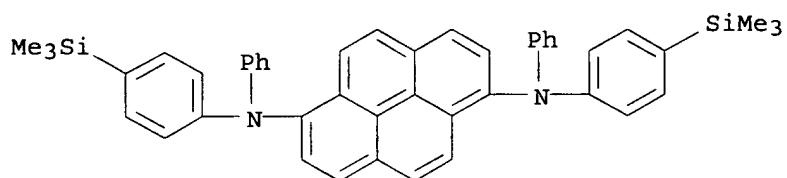
RN 722498-84-2 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



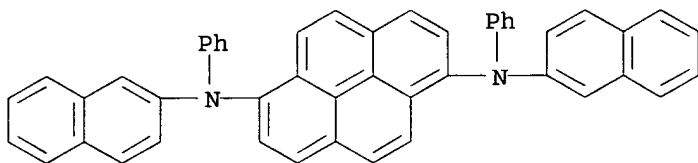
RN 722498-85-3 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-diphenyl-N,N'-bis[4-(trimethylsilyl)phenyl]-
(9CI) (CA INDEX NAME)



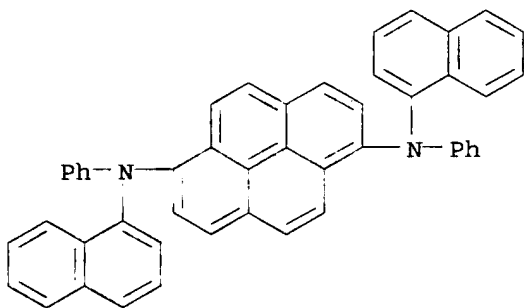
RN 722498-86-4 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-di-2-naphthalenyl-N,N'-diphenyl- (9CI) (CA
INDEX NAME)



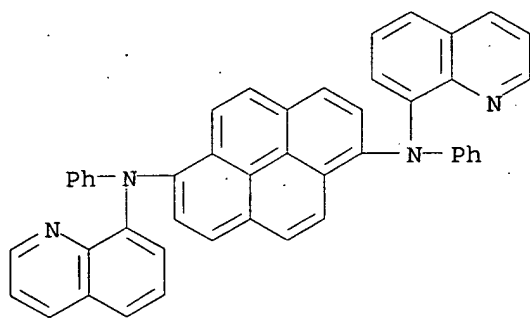
RN 722498-87-5 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-di-1-naphthalenyl-N,N'-diphenyl- (9CI) (CA
INDEX NAME)



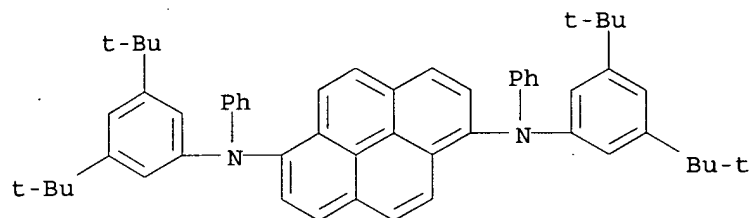
RN 722498-88-6 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-diphenyl-N,N'-di-8-quinolinyl- (9CI) (CA
INDEX NAME)



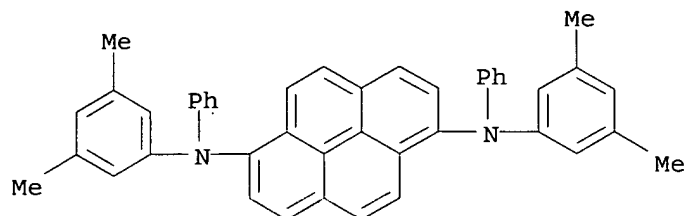
RN 722498-89-7 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis[3,5-bis(1,1-dimethylethyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



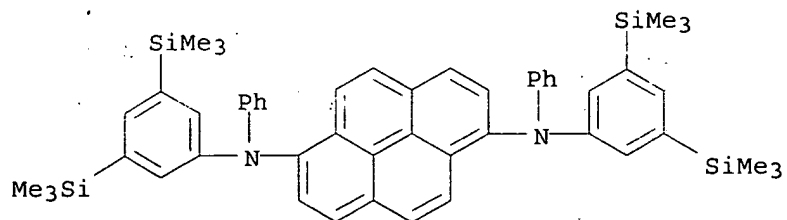
RN 722498-90-0 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis(3,5-dimethylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



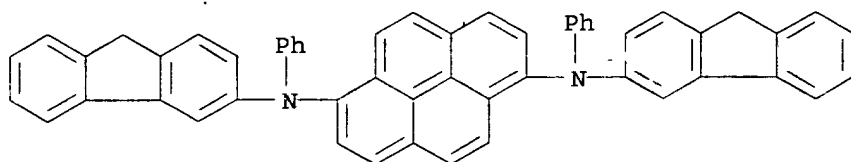
RN 722498-91-1 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis[3,5-bis(trimethylsilyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



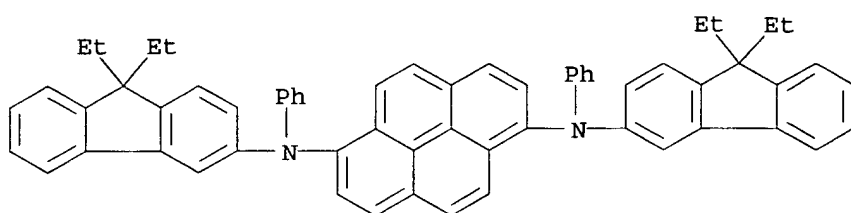
RN 722498-92-2 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-di-9H-fluoren-3-yl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



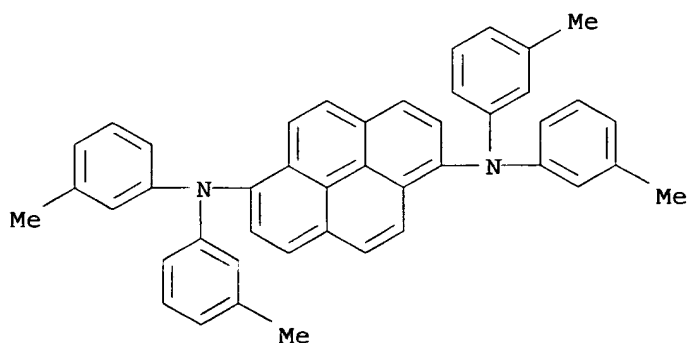
RN 722498-93-3 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis(9,9-diethyl-9H-fluoren-3-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



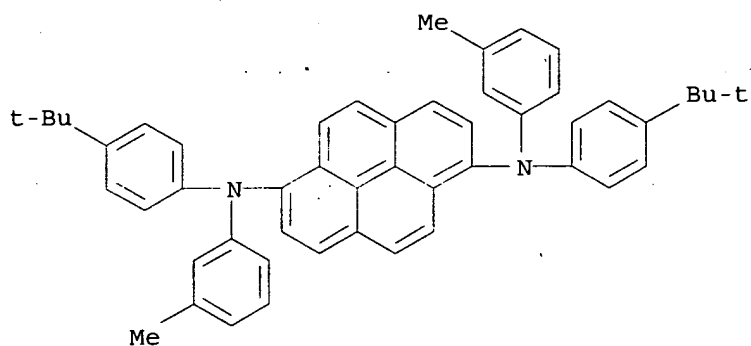
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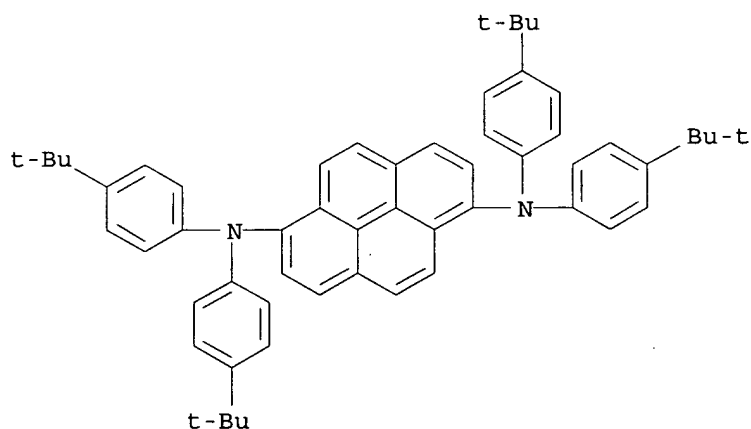
RN 722498-95-5 HCAPLUS

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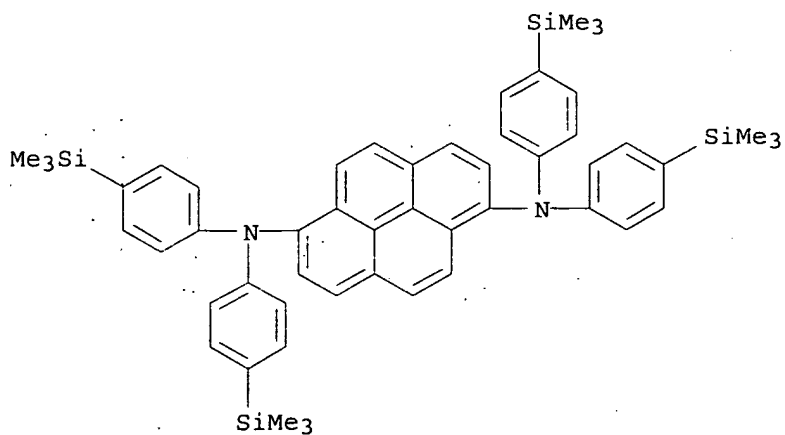
RN 722498-97-7 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis[4-(1,1-dimethylethyl)phenyl] - (9CI) (CA INDEX NAME)



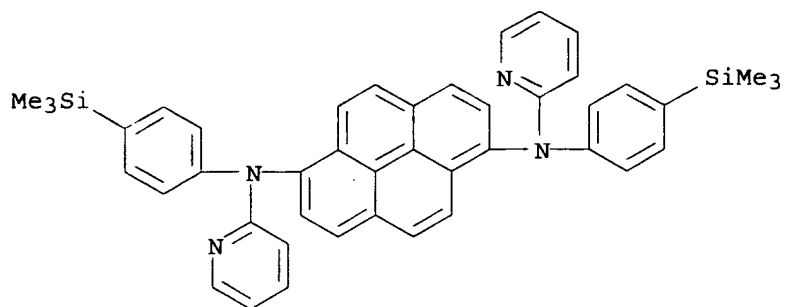
RN 722498-98-8 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis[4-(trimethylsilyl)phenyl] - (9CI) (CA INDEX NAME)



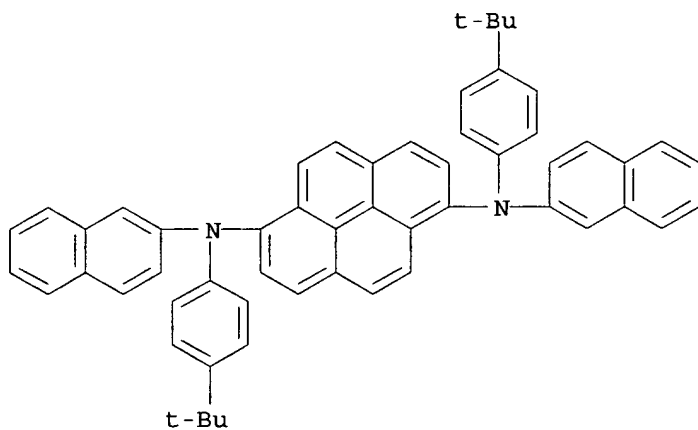
RN 722498-99-9 HCAPLUS

1,6-Pyrenediamine, N,N'-di-2-pyridinyl-N,N'-bis[4-(trimethylsilyl)phenyl]- (9CI) (CA INDEX NAME)



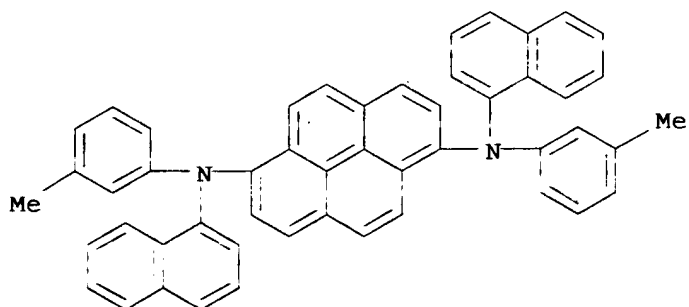
RN 722499-00-5 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



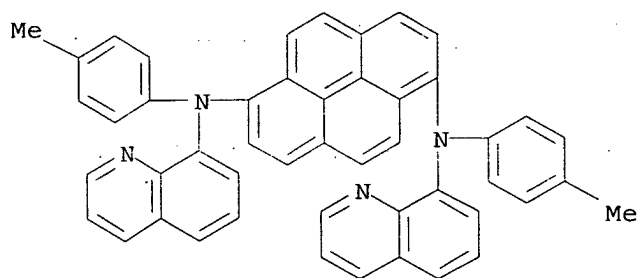
RN 722499-01-6 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis(3-methylphenyl)-N,N'-di-1-naphthalenyl- (9CI) (CA INDEX NAME)



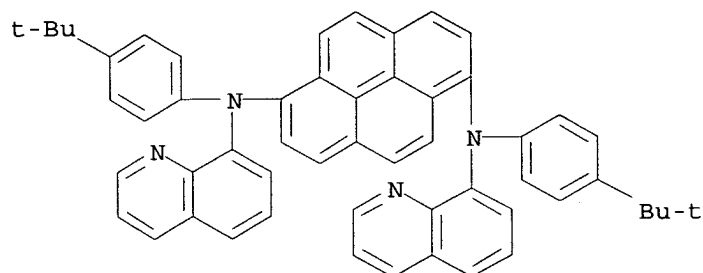
RN 722499-02-7 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis(4-methylphenyl)-N,N'-di-8-quinolinyl- (9CI) (CA INDEX NAME)



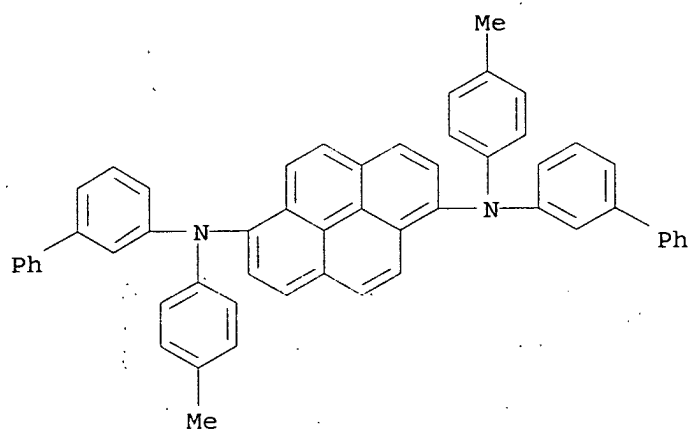
RN 722499-03-8 HCAPLUS

CN 1,6-Pyrenedi-amine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-di-8-quinolinyl- (9CI) (CA INDEX NAME)



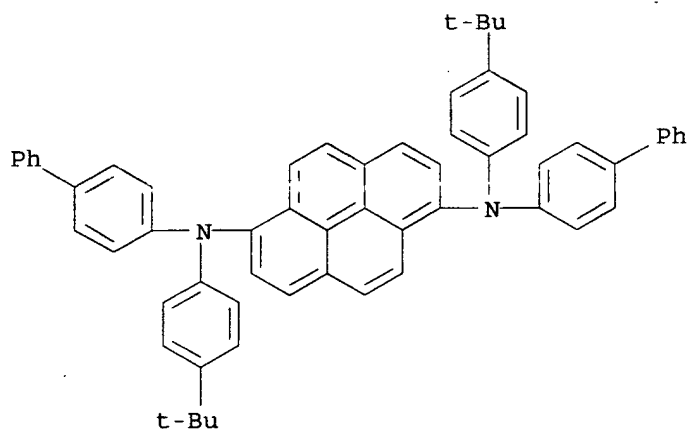
RN 722499-04-9 HCAPLUS

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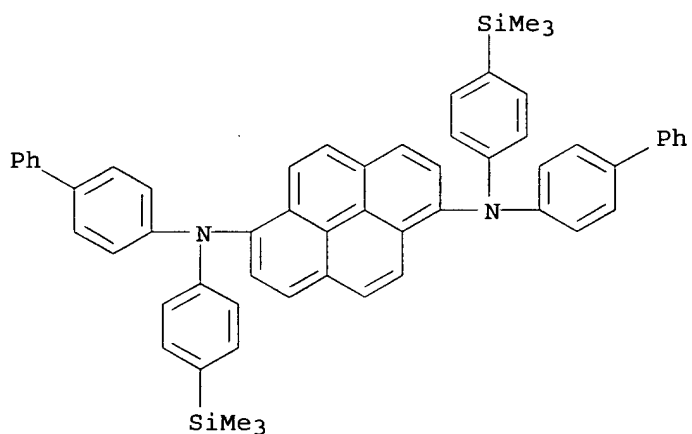
RN 722499-05-0 HCAPLUS

CN 1,6-Pyrenedi-amine, N,N'-bis([1,1'-biphenyl]-4-yl)-N,N'-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



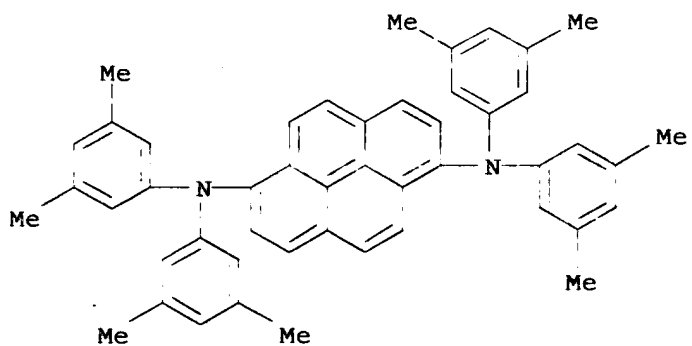
RN 722499-06-1 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis([1,1'-biphenyl]-4-yl)-N,N'-bis[4-(trimethylsilyl)phenyl]- (9CI) (CA INDEX NAME)



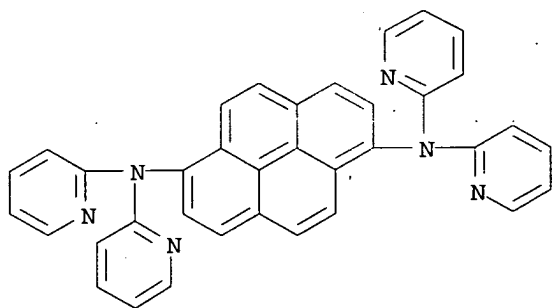
RN 722499-07-2 HCAPLUS

CN 1,6-Pyrenediimine, N,N',N',N'-tetrakis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)



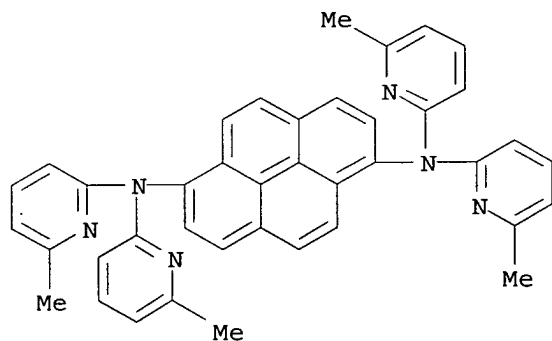
RN 722499-08-3 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetra-2-pyridinyl- (9CI) (CA INDEX NAME)



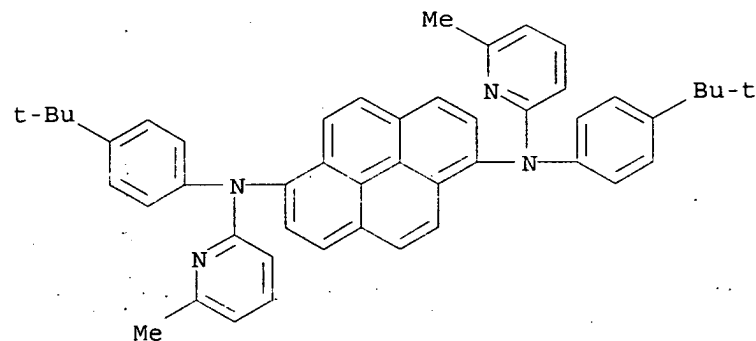
RN 722499-09-4 HCAPLUS

CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis(6-methyl-2-pyridinyl)- (9CI)
(CA INDEX NAME)



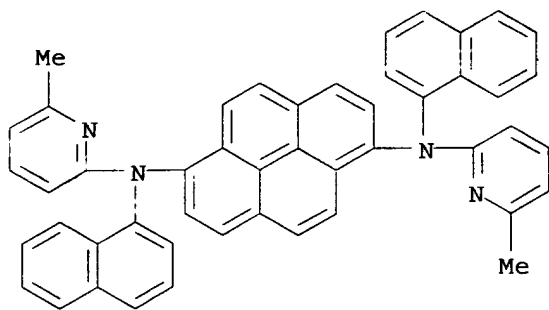
RN 722499-10-7 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-bis(6-methyl-2-pyridinyl)- (9CI) (CA INDEX NAME)



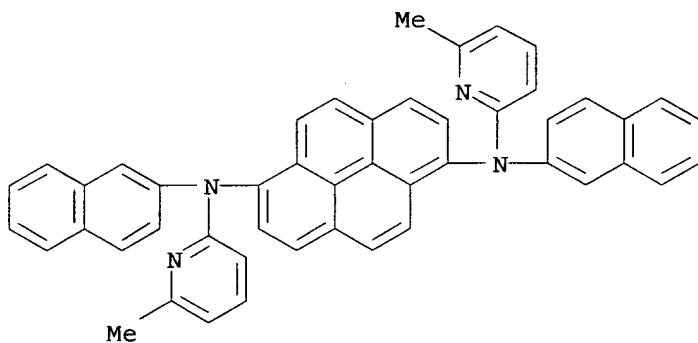
RN 722499-11-8 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis(6-methyl-2-pyridinyl)-N,N'-di-1-naphthalenyl- (9CI) (CA INDEX NAME)



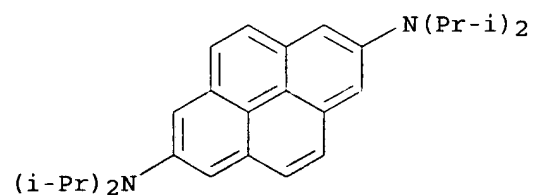
RN 722499-12-9 HCAPLUS

CN 1,6-Pyrenediimine, N,N'-bis(6-methyl-2-pyridinyl)-N,N'-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



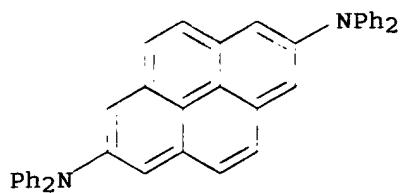
RN 722499-13-0 HCAPLUS

CN 2,7-Pyrenediimine, N,N,N',N'-tetrakis(1-methylethyl)- (9CI) (CA INDEX NAME)



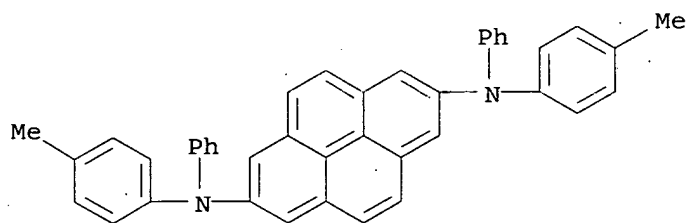
RN 722499-14-1 HCAPLUS

CN 2,7-Pyrenediimine, N,N,N',N'-tetrakis(1-methylethyl)- (9CI) (CA INDEX NAME)



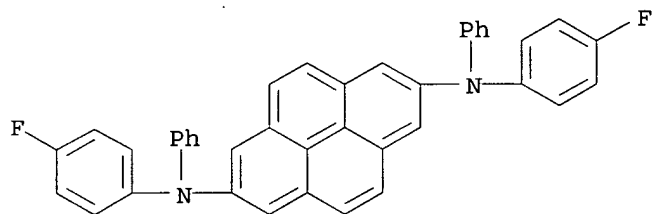
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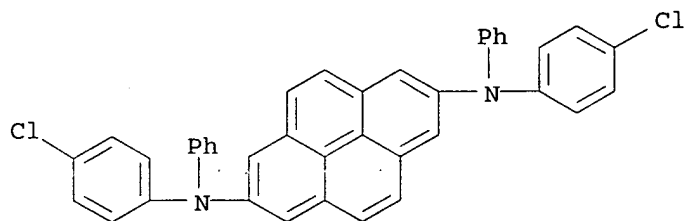
RN 722499-16-3 HCAPLUS

CN 2,7-Pyrenediamine, N,N'-bis(4-fluorophenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



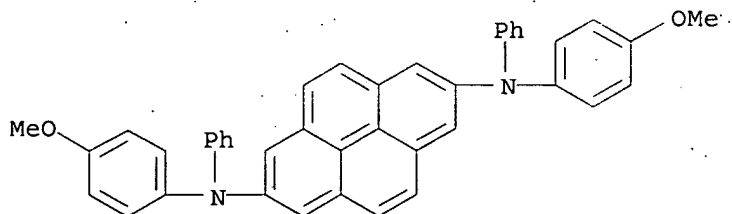
RN 722499-17-4 HCAPLUS

CN 2,7-Pyrenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

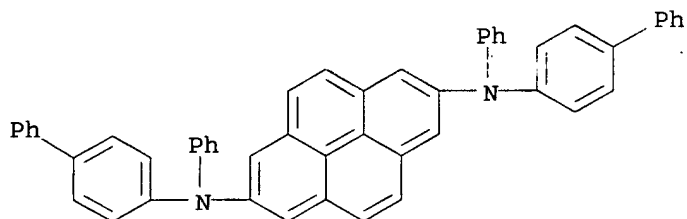


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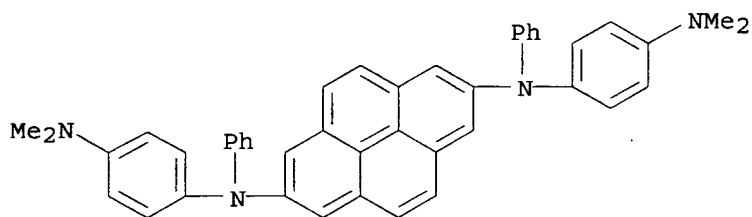


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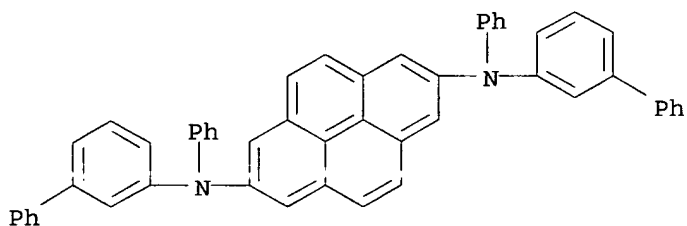
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(CA INDEX NAME)

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CN 2,7-Pyrenediamine, N,N'-bis[4-(dimethylamino)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)

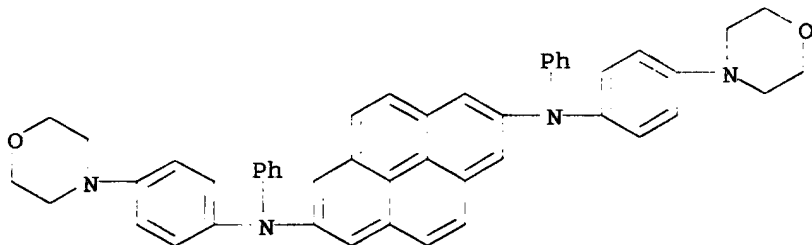


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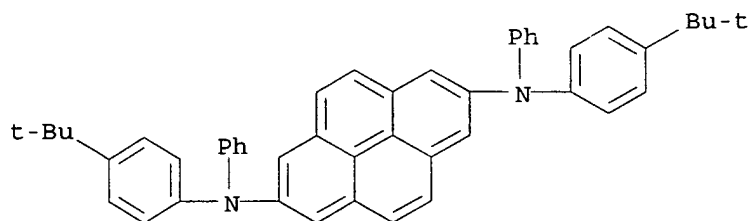
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(CA INDEX NAME)

RN 722499-22-1 HCAPLUS

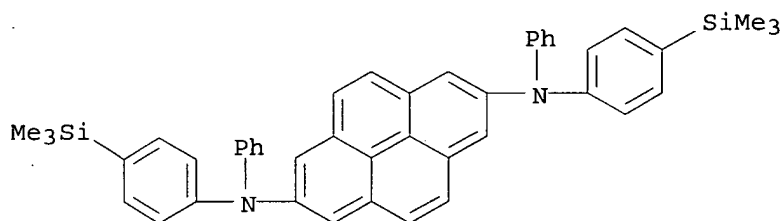
CN 2,7-Pyrenediamine, N,N'-bis[4-(4-morpholinyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



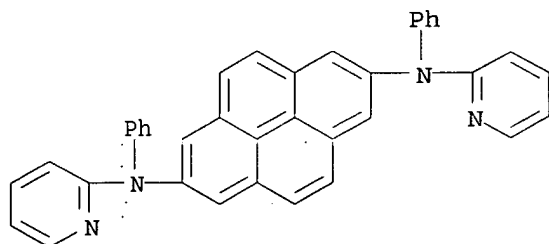
RN 722499-23-2 HCAPLUS
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 (9CI) (CA INDEX NAME)



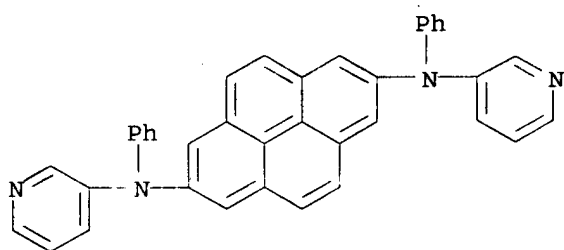
RN 722499-24-3 HCAPLUS
 CN 2,7-Pyrenediamine, N,N'-diphenyl-N,N'-bis[4-(trimethylsilyl)phenyl]-
 (9CI) (CA INDEX NAME)



RN 722499-25-4 HCAPLUS
 CN 2,7-Pyrenediamine, N,N'-diphenyl-N,N'-di-2-pyridinyl- (9CI) (CA INDEX NAME)

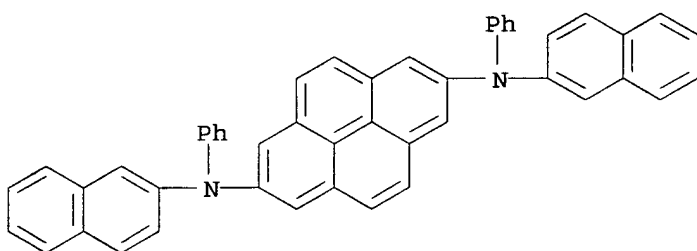


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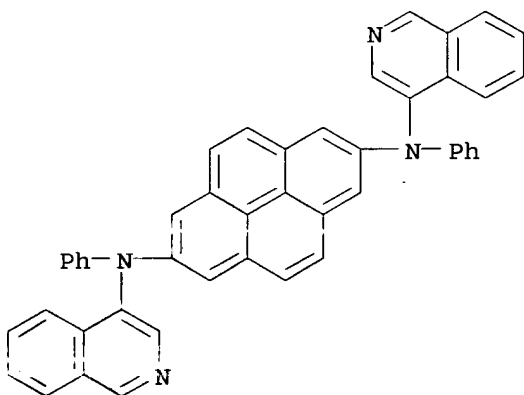
RN 722499-27-6 HCAPLUS

CN 2,7-Pyrenediimine, N,N'-di-2-naphthalenyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



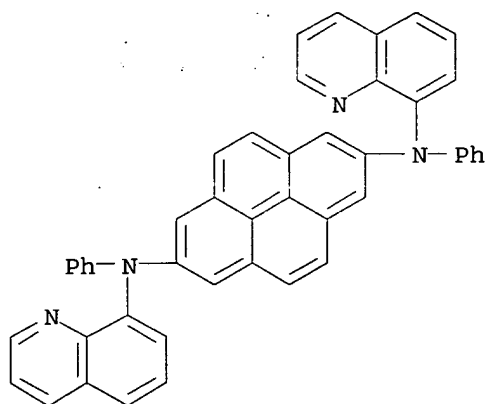
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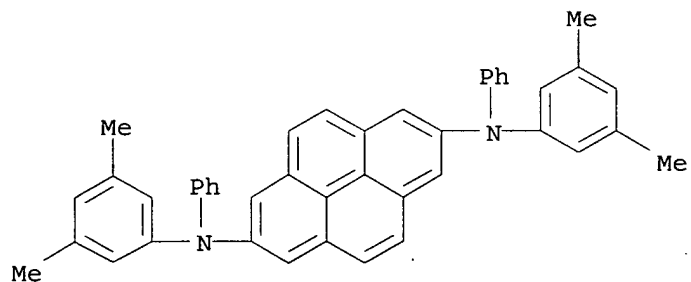
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CN 2,7-Pyrenediimine, N,N'-diphenyl-N,N'-di-8-quinolinyl- (9CI) (CA INDEX NAME)



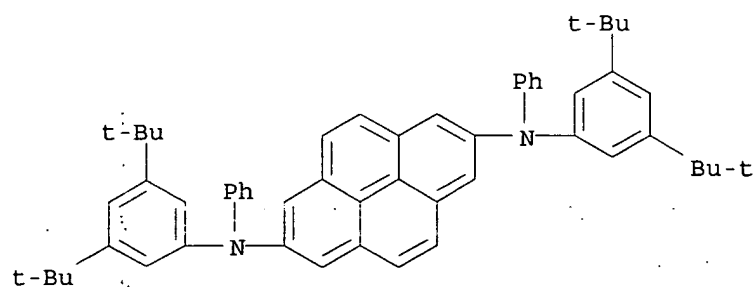
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(CA INDEX NAME)



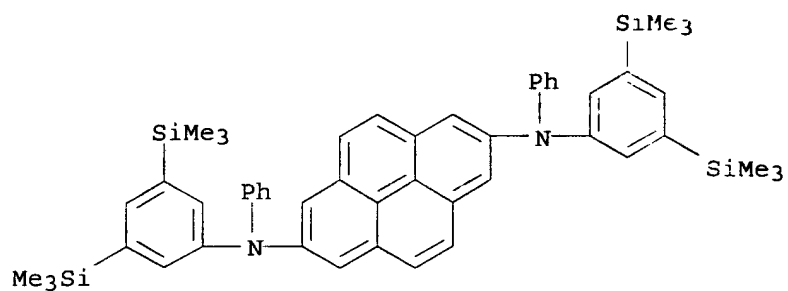
RN 722499-31-2 HCAPLUS

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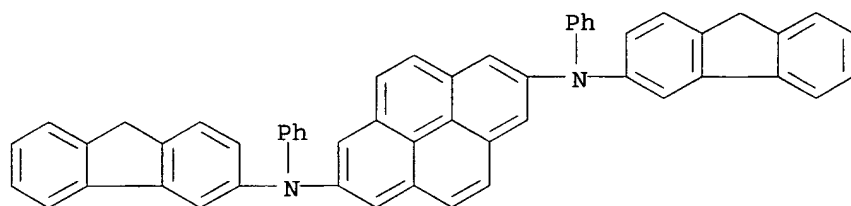
RN 722499-32-3 HCAPLUS

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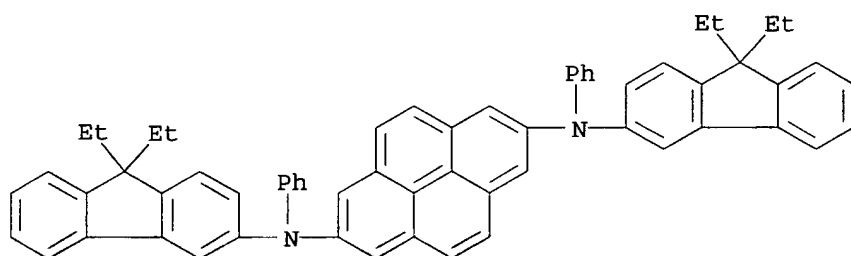
RN 722499-33-4 HCAPLUS

CN 2,7-Pyrenediamine, N,N'-di-9H-fluoren-3-yl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



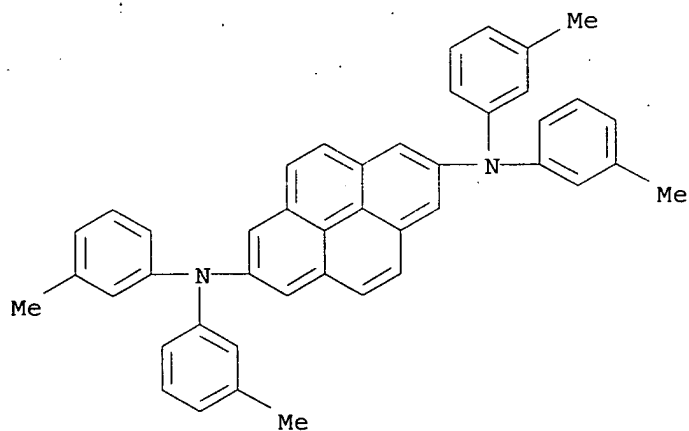
RN 722499-34-5 HCAPLUS

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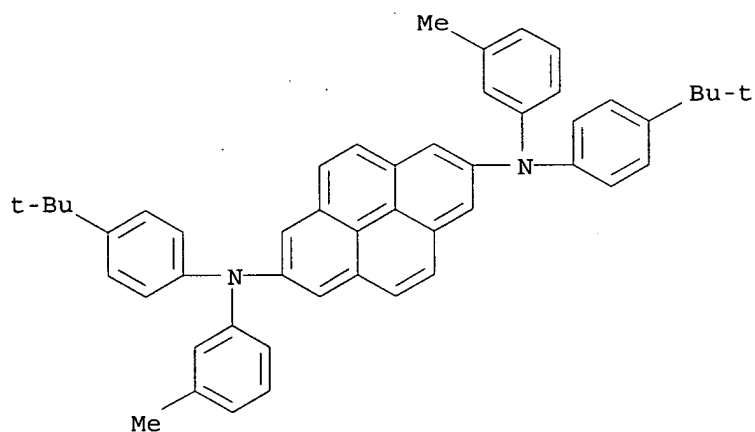
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CN 2,7-Pyrenediamine, N,N,N',N'-tetrakis(3-methylphenyl)- (9CI) (CA INDEX NAME)



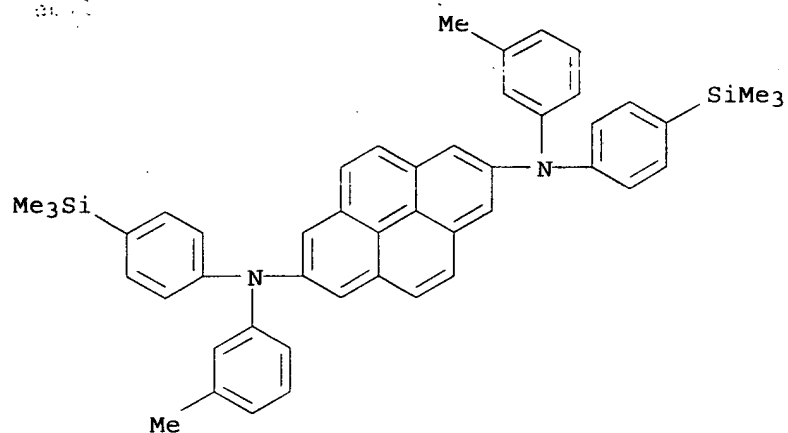
RN 722499-36-7 HCAPLUS

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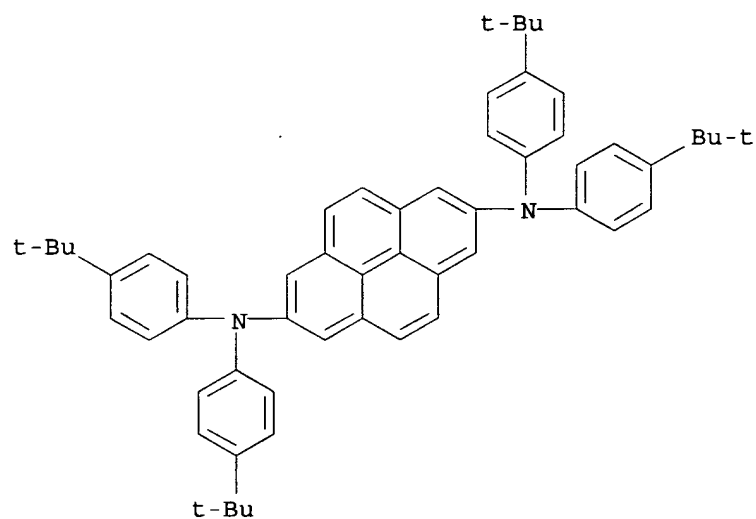


RN 722499-37-8 HCAPLUS

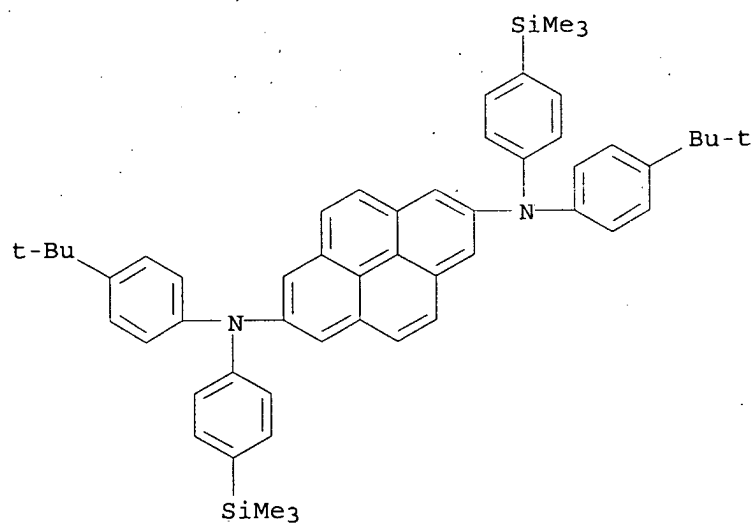
CN 2,7-Pyrenediimine, N,N'-bis(3-methylphenyl)-N,N'-bis[4-(trimethylsilyl)phenyl]- (9CI) (CA INDEX NAME)



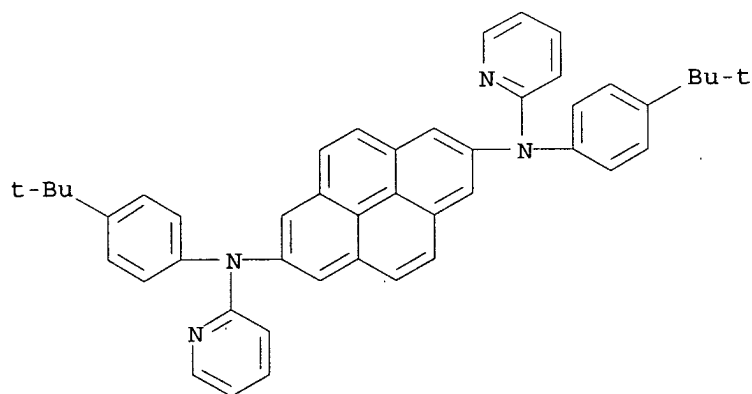
RN 722499-38-9 HCAPLUS
 CN 2,7-Pyrenediimine, N,N,N',N'-tetrakis[4-(1,1-dimethylethyl)phenyl]-
 (9CI) (CA INDEX NAME)



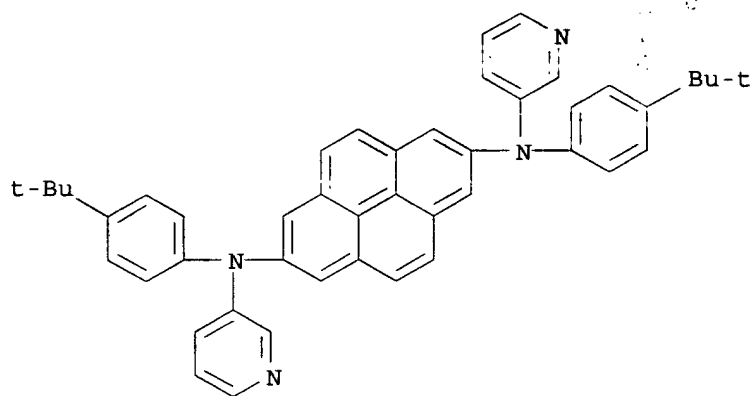
RN 722499-39-0 HCAPLUS
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RN 722499-40-3 HCAPLUS
CN 2,7-Pyrenedi-amine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-di-2-pyridinyl- (9CI) (CA INDEX NAME)

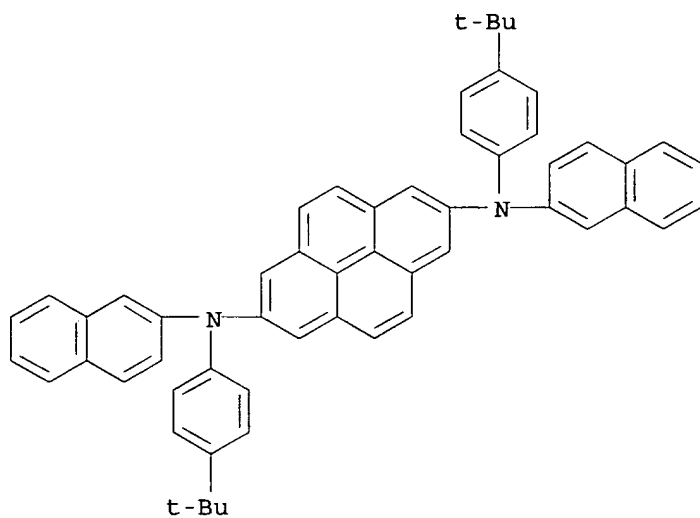


RN 722499-41-4 HCAPLUS
CN 2,7-Pyrenedi-amine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-di-3-pyridinyl- (9CI) (CA INDEX NAME)



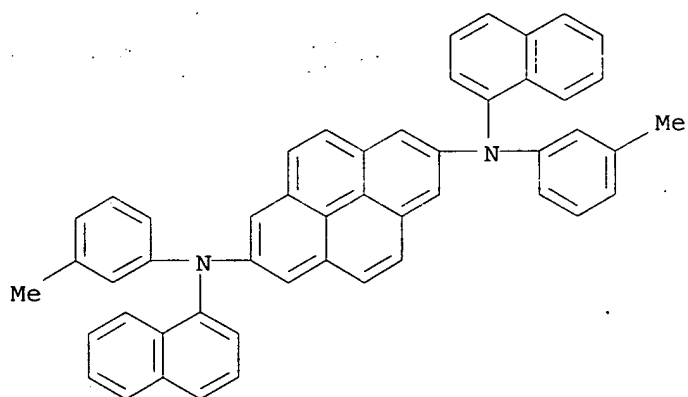
RN 722499-42-5 HCAPLUS

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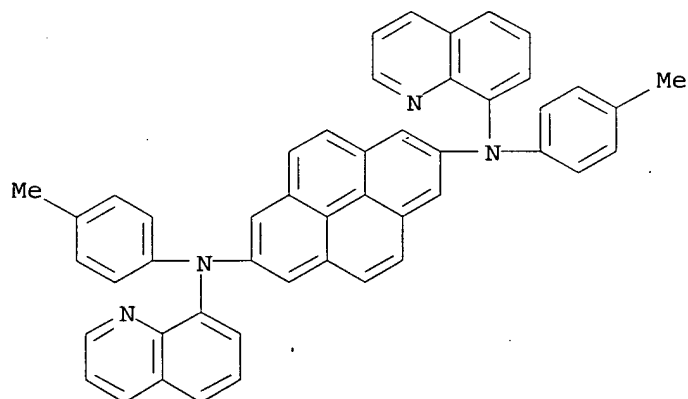


RN 722499-43-6 HCAPLUS

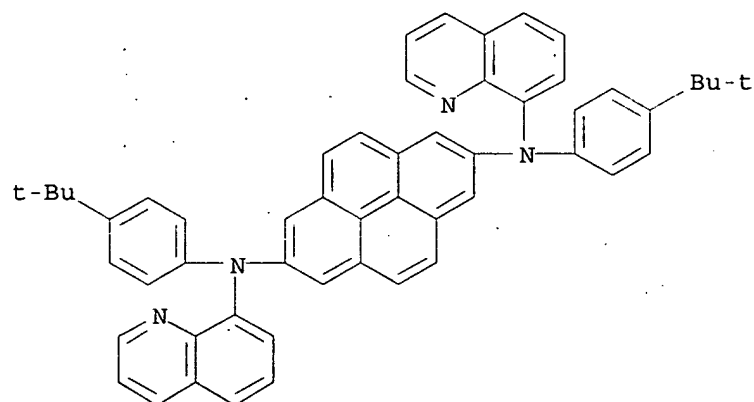
CN 2,7-Pyrenediamine, N,N'-bis(3-methylphenyl)-N,N'-di-1-naphthalenyl- (9CI) (CA INDEX NAME)



RN 722499-44-7 HCAPLUS

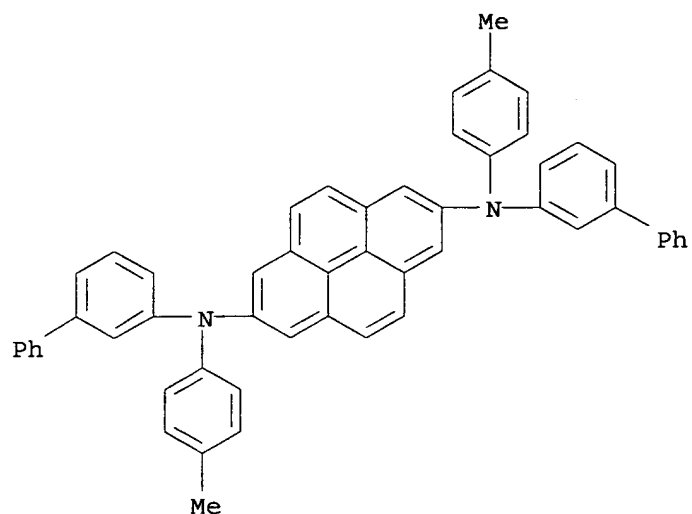
CN 2,7-Pyrenedi-amine, N,N'-bis(4-methylphenyl)-N,N'-di-8-quinolinyl-
(9CI) (CA INDEX NAME)

RN 722499-45-8 HCAPLUS

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quinolinyl- (9CI) (CA INDEX NAME)

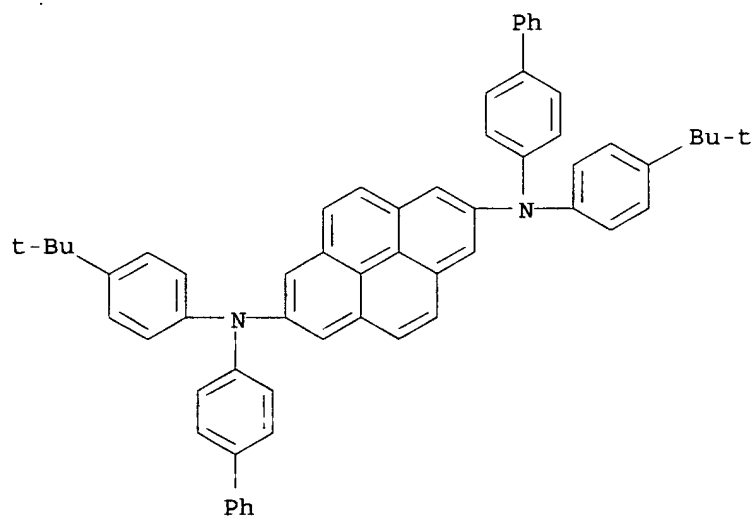
RN 722499-46-9 HCAPLUS

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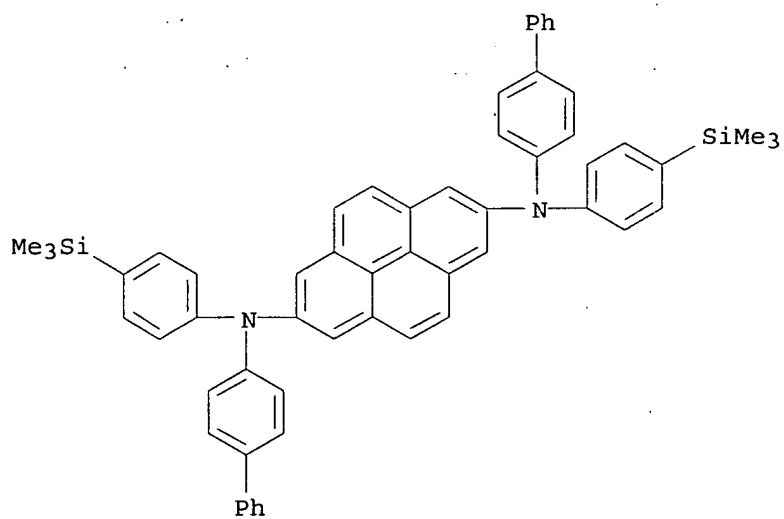
RN 722499-47-0 HCAPLUS

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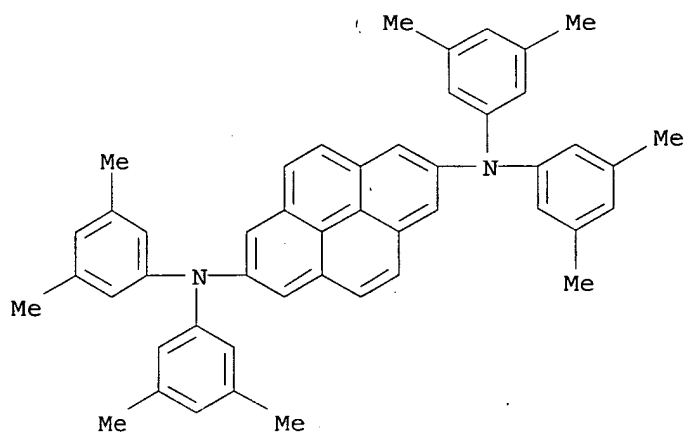
RN 722499-48-1 HCAPLUS

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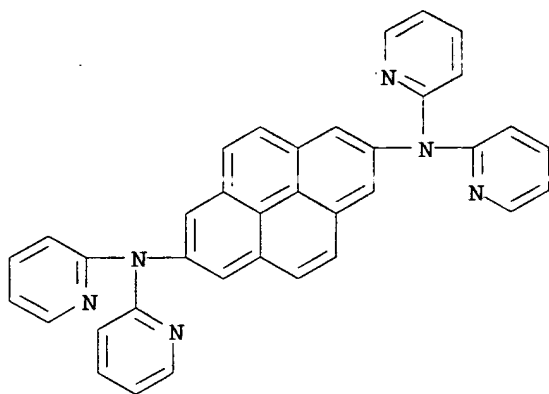
RN 722499-49-2 HCAPLUS

CN 2,7-Pyrenediamine, N,N,N',N'-tetrakis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

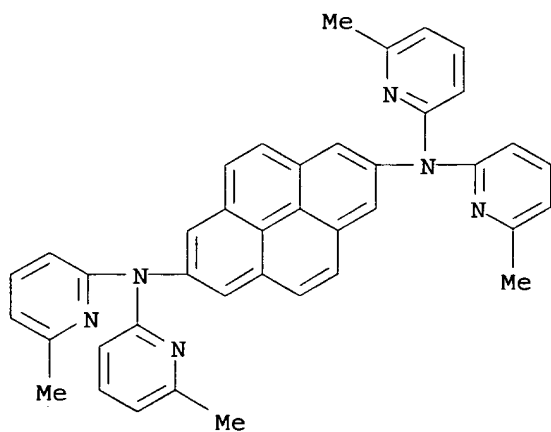


RN 722499-50-5 HCAPLUS

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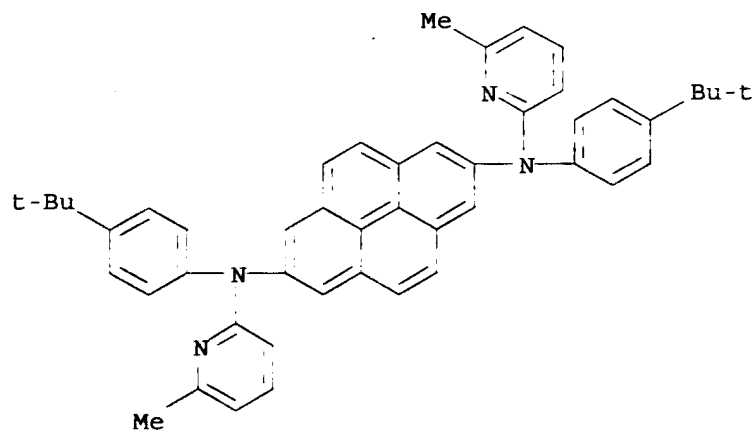


RN 722499-51-6 HCAPLUS

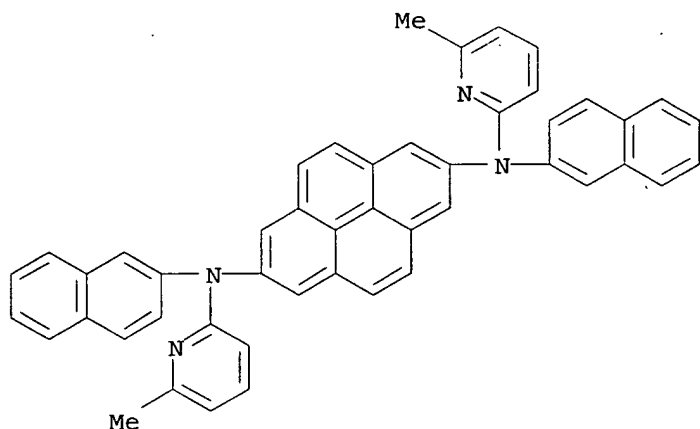
CN 2,7-Pyrenediimine, N,N,N',N'-tetrakis(6-methyl-2-pyridinyl)- (9CI)
(CA INDEX NAME)

RN 722499-52-7 HCAPLUS

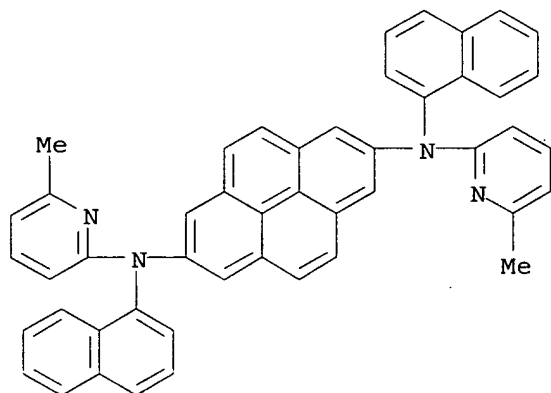
CN 2,7-Pyrenediimine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-bis(6-methyl-2-pyridinyl)- (9CI) (CA INDEX NAME)



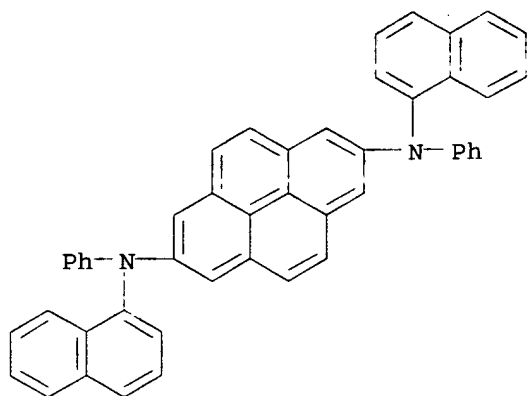
RN 722499-53-8 HCAPLUS
CN 2,7-Pyrenediamine, N,N'-bis(6-methyl-2-pyridinyl)-N,N'-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



RN 722499-54-9 HCAPLUS
CN 2,7-Pyrenediamine, N,N'-bis(6-methyl-2-pyridinyl)-N,N'-di-1-naphthalenyl- (9CI) (CA INDEX NAME)



IT 722498-96-6
(blue-emitting dopant; organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)
RN 722498-96-6 HCAPLUS
CN 2,7-Pyrenediamine, N,N'-di-1-naphthalenyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

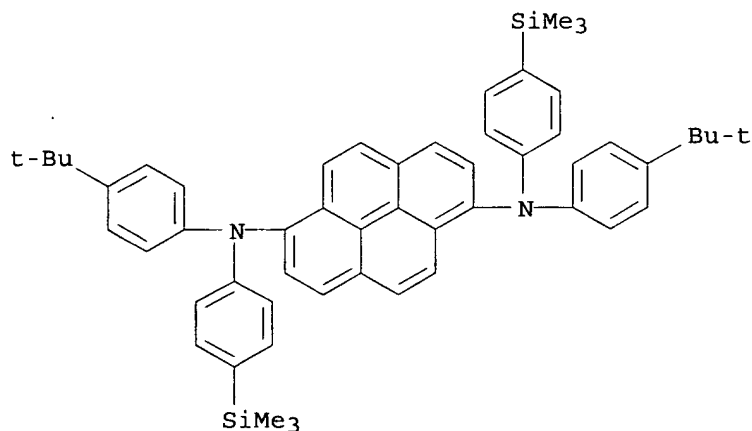


IT 722498-52-4P 722498-53-5P 722498-55-7P

(blue-emitting dopant; organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)

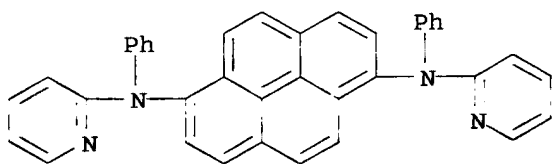
RN 722498-52-4 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-bis[4-(trimethylsilyl)phenyl]- (9CI) (CA INDEX NAME)



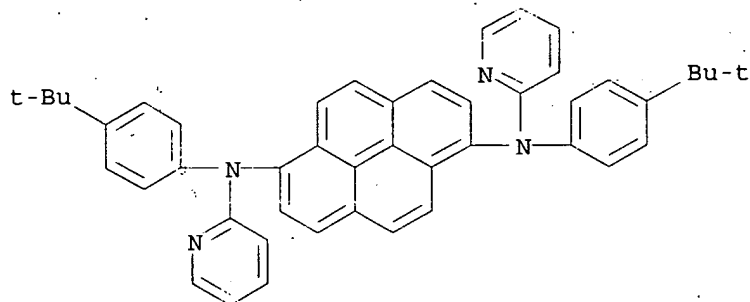
RN 722498-53-5 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-diphenyl-N,N'-di-2-pyridinyl- (9CI) (CA INDEX NAME)

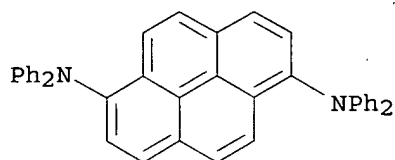


RN 722498-55-7 HCAPLUS

CN 1,6-Pyrenediamine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-di-2-pyridinyl- (9CI) (CA INDEX NAME)



IT 76656-53-6P
 (organic electroluminescent devices employing blue-emitting dopants
 based on amine derivs. of pyrene)
 RN 76656-53-6 HCAPLUS
 CN 1,6-Pyrenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)
 Section cross-reference(s): 22, 25, 76
 IT 76656-51-4 143141-30-4 163969-53-7
 663954-33-4 668019-96-3 722498-76-2
 722498-77-3 722498-78-4 722498-79-5
 722498-80-8 722498-81-9 722498-82-0
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- (blue-emitting dopant; organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)
- IT 722498-96-6
(blue-emitting dopant; organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)
- IT 722498-52-4P 722498-53-5P 722498-55-7P
(blue-emitting dopant; organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)
- IT 76656-53-6P
(organic electroluminescent devices employing blue-emitting dopants based on amine derivs. of pyrene)

L33 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:34225 HCAPLUS

DOCUMENT NUMBER: 118:34225

TITLE: Genotoxicities of nitropyrenes and their modulation by apigenin, tannic acid, ellagic acid and indole-3-carbinol in the Salmonella and CHO systems

AUTHOR(S): Kuo, Min Liang; Lee, Kuen Chen; Lin, Jen Kun

CORPORATE SOURCE: Coll. Med., Natl. Taiwan Univ., Taipei, Taiwan

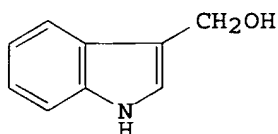
SOURCE: Mutation Research, Fundamental and Molecular Mechanisms of Mutagenesis (1992), 270(2), 87-95
CODEN: MUREAV; ISSN: 0027-5107

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 03 Feb 1993

GI



I

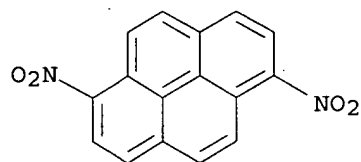
- AB Four naturally occurring compds., indole-3-carbinol (I3C) (I), apigenin (Api), ellagic acid (EA) and tannic acid (TA), were tested for their inhibitory effects against 1-nitropyrene- (1-NP) or 1,6-dinitropyrene (1,6-DNP)-induced genotoxicity in Salmonella tester strains and CHO cells. Api and TA strongly inhibited the bacterial mutagenesis induced by nitropyrenes, while I3C and EA had little or no effect. For example, in TA98, 0.2 μ mole Api resulted in 48% and 56% inhibition of the mutagenicity induced by 4 nmol 1-NP and 0.035 nmol 1,6-DNP, resp. With an equal dose, TA caused 46 and 50% reduction of the mutagenicity induced by 1-NP and 1,6-DNP, resp. As expected, a good correlation was observed between the antimutagenicity of nitropyrenes and their inhibitory effect on nitroreductase activity. This indicated that one of the possible antimutagenic mechanisms of Api or TA was to inactivate the metabolism of nitropyrenes. Two biol. end-points, cytotoxicity and sister-chromatid exchange (SCEs), were used to screen the antigenotoxic effects of these compds. in CHO cells. At the subcytotoxic dose, I3C, Api and TA all protected against the cytotoxicity induced by 1-NP and 1,6-DNP, but only TA and Api gave a significant reduction of the frequency of SCEs. Moreover, this

reduction was highly dose-dependent.

IT 42397-64-8, 1,6-Dinitropyrene
(mutagenicity of, in Ames test and CHO cells, antimutagens effect on)

RN 42397-64-8 HCAPLUS

CN Pyrene, 1,6-dinitro- (CA INDEX NAME)



CC 4-6 (Toxicology)

IT 5522-43-0, 1-Nitropyrene 42397-64-8, 1,6-Dinitropyrene
(mutagenicity of, in Ames test and CHO cells, antimutagens effect on)

=> this nofile

(FILE 'HOME' ENTERED AT 14:47:55 ON 04 APR 2007)

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SEL RN

FILE 'REGISTRY' ENTERED AT 14:48:18 ON 04 APR 2007

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L3 STR

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L5 STR L3

L6 38 SEA SSS SAM L5

L7 662 SEA SSS FUL L5
SAV L7 THO778/A

L8 88 SEA ABB=ON PLU=ON L7 AND L2

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L12 62874 SEA ABB=ON PLU=ON "LUMINESCENT SUBSTANCES"+PFT,NT/CT

L13 9 SEA ABB=ON PLU=ON L11 AND L12

L14 6 SEA ABB=ON PLU=ON L9 AND L12

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L15 STR L5
 L16 12 SEA SUB=L7 SSS SAM L15
 L17 196 SEA SUB=L7 SSS FUL L15
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FILE 'HCAPLUS' ENTERED AT 14:58:44 ON 04 APR 2007

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 OR (ELECTRO OR ORGANO OR ORG#) (2A) LUM!N? OR LIGHT? (2A) (EMIT
 ? OR EMISSION?) OR (EL OR E(W)L OR L(W)E(W)D OR OLED)/IB,AB
 L20 29 SEA ABB=ON PLU=ON L18 AND L19
 L21 9 SEA ABB=ON PLU=ON L17 AND BLUE(2A)EMIT?
 L22 5 SEA ABB=ON PLU=ON L11 AND BLUE(2A)EMIT?
 L23 10 SEA ABB=ON PLU=ON L21 OR L22
 L24 12 SEA ABB=ON PLU=ON L18 AND L12
 L25 36 SEA ABB=ON PLU=ON L13 OR L14 OR L20
 L26 36 SEA ABB=ON PLU=ON L25 OR L24
 L27 27 SEA ABB=ON PLU=ON L26 NOT L23
 L28 2608 SEA ABB=ON PLU=ON SEO, J?/AU
 L29 26467 SEA ABB=ON PLU=ON LEE, K?/AU
 L30 39990 SEA ABB=ON PLU=ON KIM, H?/AU
 L31 10118 SEA ABB=ON PLU=ON PARK, C?/AU
 L32 2156 SEA ABB=ON PLU=ON OH, H?/AU
 L33 2 SEA ABB=ON PLU=ON (L28 OR L29 OR L30 OR L31 OR L32) AND
 L10
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 L35 27 SEA ABB=ON PLU=ON L27 NOT L33
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 L37 6249335 SEA ABB=ON PLU=ON OVERLAY? OR OVERLAID? OR LAMIN? OR
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 OR BASE# OR SUBSTRUCT? OR UNDERSTRUCT? OR UNDERLAY? OR
 FOUNDATION?
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 L39 9 SEA ABB=ON PLU=ON L35 AND L37
 L40 27 SEA ABB=ON PLU=ON L35 OR L39
 L41 1 SEA ABB=ON PLU=ON L34 AND L37
 L42 9 SEA ABB=ON PLU=ON L34 OR L41
 L43 10 SEA ABB=ON PLU=ON L18 AND BLUE?
 L44 2 SEA ABB=ON PLU=ON L43 NOT L42
 L45 11 SEA ABB=ON PLU=ON L42 OR L44
 L46 7 SEA ABB=ON PLU=ON L38 NOT (L40 OR L45 OR L33)
 L47 0 SEA ABB=ON PLU=ON L46 AND OPTIC?/SC,SX
 L48 15 SEA ABB=ON PLU=ON L40 AND (1840-2002)/PRY,AY,PY

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